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The Survey of Sickness

1943 to 1952

by

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The monthly sample Survey of Sickness was an important experiment in the collection of statistical facts about the health and sickness of the people of this country during the last year and a half of the 1939-45 war and in the seven years that followed, a period marked by the introduction of the National Health Service in 1948.

The main analysis and publication of the findings of the Survey took place during its lifetime. Enquiries coming to the Department and the interest still being shown, at home and abroad, in its methods and results indicate a need for a final comprehensive account of the Survey. This has accordingly been prepared by Dr. Logan and Miss Brooke of the General Register Office and is contained in the present volume which describes the background, aims and methods of the Survey, exhibits a collection of the principal statistical findings and seeks to appraise its contribution, actual and potential, to morbidity statistics in this country.

In presenting this account, it is desired to pay tribute to the work of the Social Survey division of the Central Office of Information, who were responsible for the field work of the Survey of Sickness.

General Note on Morbidity Terms Used

The morbidity measurements used in this Study are those which were used in the Survey of Sickness and which have already appeared in the published results. New terms of morbidity measurement have since been recommended for future use, by the Registrar General's Advisory Committee on Medical Nomenclature and Statistics in "Measurement of Morbidity."*

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TABLE OF CONTENTS

Commentary

Page

The Origin of Social Surveys 1

Surveys in Other Countries 4
  United States of America 4
  Canada 10
  Other Countries 11

The Origin of the Survey of Sickness of England and Wales . . 11

Sampling 13

Definitions and Conventions 16
  Illnesses 16
  Classification of Illness according to its Severity . . . 17
  Rates 19

The Interview; the Schedule; Processing 20
  The Interview 20
  The Schedule 21
  Processing 25

The Memory Factor 26

Sickness among Children under 16 years of Age 30

Supplementary Questions 31
  1. Mumps and Diabetes 31
  2. Consumer Expenditure in Chemists' Shops 32
  3. Use of Sensory Aids 32
  4. Use made by the public of the National Health Service . 32

Critical Appraisal 32

Notes on the Tables 37
  Table 1 37
  Table 2 37
  Table 4 38
  Table 5 39
  Table 6(*a*) 39
  Table 6(*b*) 39
  Table 7 40
  Table 8 40
  Table 9 41
  Table 10 41
  Table 11 42

Tables

Page

Table 1
Number of persons contributing to the sickness experience of each month shown 42

Table 2
Mean monthly Sickness, Prevalence, Incapacity and Consultation Rates by Sex, Age and Quarter, per 100 persons interviewed; July 1946 to December 1951. (See also Diagram 1) 43

Table 3
Mean monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed. July-June, 1946-7, 1947-8, 1948-9 and 1949-50 45

Table 4
Mean monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates by Sex and Age, 1947-1951 45

Table 5
Rates for Sickness starting in the month, distinguishing (*a*) Serious, moderate and mild illnesses, (*b*) Minor and ill-defined illnesses. July 1946-December 1951 46

Table 6(a)
Distribution per 1,000 of persons interviewed according to the Numbers of separate Illnesses and Injuries reported in the month; by Sex, each quarter, 1947, 1949 and 1951 48

Table 6(b)
Distribution per 1,000 of persons interviewed according to the Days of Incapacity per month reported, by Sex, each quarter, 1947, 1949 and 1951 49

Table 7
Occupational Groups. Mean monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, by Sex, 1947, 1949 and 1951 50

Table 8
Numbers of Illnesses, Days of Incapacity and Medical Consultations for Selected Diagnoses, 1949, 1950 and 1951, by Sex
(*a*) Ages 16-64 (21-64 in 1951) 52
(*b*) Ages 65 and over 52

Table 9
Mean monthly Prevalence Rates, Average Duration (in days) of Incapacity, and Medical Consultation Rates per 10,000 persons interviewed according to Sex and Age in a selection made from a short list of 100 causes designed for use in Morbidity Surveys, 1950 . . 53

Table 10
Mean monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, by Sex and Income Group of Chief Wage Earner, 1947, 1949 and of Head of Household, 1951 57

Table 11
Dental Consultations. Mean Annual Consultation Rates per 100 persons interviewed, 1950, by Sex and Age, according to (*a*) Occupation group, (*b*) Income group, of person interviewed 58

Diagrams

Diagram I. Mean Monthly Sickness, Prevalence, Incapacity and Consultation Rates, by Sex, Age, and Quarter per 100 persons interviewed, July 1946-December 1951. (See also Table 2) 59
- Fig. IA Sickness Rates 59
- Fig. IB Prevalence Rates 60
- Fig. IC Incapacity Rates 61
- Fig. ID Consultation Rates 62

Diagram II. Maps showing Regional Medical Consultation Rates, Monthly Average Duration of Incapacity, and Monthly Prevalence Rates, by Sex and Age, per 100 persons interviewed, 1950 63
- Fig. IIA Medical Consultation Rates, ages 16-44 63
- Fig. IIB Medical Consultation Rates, ages 45-64 64
- Fig. IIC Monthly Average Duration of Incapacity, ages 16-44 . . 65
- Fig. IID Monthly Average Duration of Incapacity, ages 45-64 . . 66
- Fig. IIE Monthly Sickness Rates, ages 16-44 67
- Fig. IIF Monthly Sickness Rates, ages 45-64 68

Appendices

Appendix I. Example of Sample Districts, with number of interviews, in April to September, 1951 69
Appendix II. Occupation and Industry Classification 71
Appendix III. Special Uses of Information obtained from the Routine Survey . 74
Appendix IV. Composition of the Social Survey Regions 76
Appendix V. A Short Bibliography of Sickness Statistics 77
Appendix VI. Specimen Schedule 80

THE SURVEY OF SICKNESS 1943 TO 1952

THE ORIGIN OF SOCIAL SURVEYS

The conditions of many of the working people in the early nineteenth century, both in this country and elsewhere, were such as to stir the hearts of all charitable men. The Industrial Revolution had led to people being herded together in the manufacturing towns or in mining centres where many lived in an extreme state of poverty and squalor and therefore of disease. Novels like Kingsley's 'Alton Locke', which showed the plight of those working in the sweated tailoring industry in the East End of London, moved the emotions and roused people's consciences. But before any remedial measures could be obtained hard facts were needed.

On 14th May, 1838, the Poor Law Commissioners presented to Lord John Russell a report "relative to certain charges which have been disallowed by the auditors of unions in England and Wales" and also two supplementary reports, one a 'Report on the prevalence of certain Physical Causes of Fever in the Metropolis, which might be removed by proper sanitary measures', by Neil Arnott, M.D. and James Phillips Kay, M.D.; the other a 'Report on some of the Physical Causes of Sickness and Mortality to which the Poor are peculiarly exposed, and which are capable of removal by Sanitary Regulations exemplified in the present condition of the Bethnal Green and Whitechapel Districts, as ascertained on a personal inspection by Southwood Smith, M.D., Physician to the London Fever Hospital (see Fourth Annual Report, App. A No. 1)'. The following year the Commission received from Dr. Southwood Smith a 'Report on the prevalence of Fever in Twenty Metropolitan Unions or Parishes during the year ending 20th March, 1838 (App. C, No. 2)'. Lord John Russell wrote on 21st August, 1839, to inform the Commissioners that following the presentation of a humble address to the Queen, Her Majesty was pleased to cause an enquiry to be made as to the extent to which the causes of disease stated in Dr. Smith's two reports prevailed "amongst the labouring classes in other parts of England and Wales" and that "Her Majesty will be graciously pleased to cause the results of such enquiry to be communicated to the House".

The Commissioners organised what must be regarded as one of the earliest social surveys made in this country. Part of the information required was got from reports obtained from the Assistant Commissioners. Letters were addressed to the Boards of Guardians of Unions in England and Wales and their medical officers asking them to answer certain questions. Reports on several towns in England were received from resident physicians, and when, in 1840, the enquiry was extended to Scotland, much valuable information was collected by the Scottish doctors. So many miscellaneous data were assembled that the Commissioners felt they should be sifted and made up into a more assimilable form before being presented to the Government. This task was given to Edwin Chadwick, the Secretary to the Poor Law Commissioners, and it resulted in the publication, in 1842, of the 'Report on the Sanitary Condition of the Labouring Population of Great Britain'.

In general the data were collected by the Assistant Commissioners from medical officers of Unions, Boards of Guardians and general practitioners, but where there were gaps in the information they had "to obtain a report, founded on personal examination, on spots where, from the returns or from other information, such examination by yourself or the medical officers of the district may appear necessary". Tours of inspection were made and in many cases the working people themselves were interviewed; thus the modern method of survey by interview was foreshadowed.

The Chadwick Report painted a gloomy though probably faithful picture of working and social conditions among the labouring class. It was followed by the Health of Towns Commission, 1844, one of whose Commissioners was the Registrar General of that time, George Graham. The Commission's duty was to enquire into the state of large towns and populous districts in relation to causes of disease among the inhabitants and to consider how far the laws and regulations about drainage, building and water supply needed to be amended for the promotion of the people's health and the salubrity and safety of their dwellings. These studies had the disadvantage, however, of being mainly qualitative, since techniques for obtaining quantitative information had not then been evolved. One of the earliest efforts at overcoming this drawback was made at the Census of England and Wales, 1851, when a count was made of the number of persons who were blind or deaf-and-dumb and the number of lunatics in asylums. The 1851 Census of Ireland went further than this; "preparations were made for procuring returns of all those persons who laboured under disease, either at their own homes or in public institutions, upon the night of 30th March, 1851". The diseased were to be divided into two classes, those with permanent maladies, such as the deaf-and-dumb, blind, lunatic, idiotic, paralytic and epileptic, lame and decrepit, and those with temporary illnesses, by which was meant "the ordinary acute and chronic maladies to which the inhabitants were liable". Further enquires were made about those people who had been entered on the Family Schedules of the Census as deaf-and-dumb to find out whether they were born in this condition, whether they were paralytic, idiotic or mentally and physically affected in some other way, their standard of education and place in the family. As a result it was found that of 5,680 persons originally described as deaf-and-dumb, there was an error in 500 cases, due chiefly to the original question in the Census form not being understood.

In succeeding Censuses of England and Wales questions were asked about deaf-mutes and from 1871 onwards about imbeciles, idiots and lunatics also. After 1911, however, it was decided to discontinue all enquiries about infirmities. The general defect of the Census method of obtaining information is that a parent will be loath to describe his child as deficient, for when admissions to mental hospitals were related back to the appropriate Census schedules it was found that a number of defectives were not so described at the time of the Census.

It was the surveys carried out at the end of the nineteenth and beginning of the twentieth centuries which established the methods commonly used today. One of the pioneers in these enquiries was Charles Booth. Like Chadwick earlier in the century, Booth was impressed by the poverty and distress in which many people lived, and set himself to obtain factual data through the agency of the London School Board visitors. He and his helpers collected information about every family in 3,400 London streets, and among a mass of socio-economic data the type and frequency of sickness attacking these families was recorded. The seventeen volumes of the 'Life and Labour of the People of London, 1892-1903' are a striking memorial to Booth's work and his "elaboration of an adequate technique for expressing qualitative concepts and arguments about society in precise numerical terms".(1)

In 1899 Rowntree began his survey of the City of York. Another advance in improving methods of survey was made, for Rowntree, instead of getting information through the observations of intermediaries as Chadwick and Booth had done, went directly to the people themselves. In the survey of York an effort was made to define poverty in numerical terms, by working out the minimum amount of money which a family needed for food, clothing, fuel and rent in order to live healthily. Those who had less, so that their health was affected by their low standard of living, were said to be below the 'Poverty Line'. A somewhat similar concept of linking standards of health with size of family income will be found in recent surveys of sickness. One result of Rowntree's study was to show that the proportion of people living in poverty in York was roughly the same as Booth had found in London.

Both Booth and Rowntree had ample financial resources which enabled them to carry out large-scale surveys whose cost would have been prohibitive for many research workers and organisations. When, in 1912, Bowley made a study of poverty in the five provincial towns of Bolton, Northampton, Reading, Stanley and Warrington, instead of visiting every household, he interviewed only about one in twenty, selecting them at equal intervals from a complete list. This method resulted in a striking reduction in cost, and was of the utmost importance because, by this new technique of sampling, surveys could now be undertaken relatively cheaply.

Booth, Rowntree and Bowley between them had established a method of social investigation used in all later surveys, "the collection in interviews of factual information from the people being studied, the application of precise qualitative definitions to apparently loose concepts such as poverty and overcrowding and finally the collection of material by interviewing sample, instead of total, populations".(2) Other surveys followed; in 1923-4 Bowley repeated the Five Towns Survey, in 1928 the London School of Economics made a new Survey of London Life and Labour, and in 1929 the University of Liverpool undertook the Merseyside Survey. In the latter a special study was made of the deaf-blind, mentally deficient, chronic sick, epileptic, and physically deformed or defective.

While the methodology of surveys was being developed there was not a complete absence of sickness statistics in this country but they were mostly obtained from records of Friendly Societies and so related in the main to incapacitating illness. From 1912 onwards information about sickness could also be got from the records of benefits paid by approved societies under the National Health Insurance Acts.

A number of investigations into the sickness of occupational groups was also made. These included Hart's 'Investigation of sickness data of Public Elementary

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[1] *Abrams, M. (1951) Social Surveys and Social Action, p. 41. Heinemann.*

[2] *Abrams, M. (1951) Ibid, p. 44.*

School Teachers in London, 1904-1919', enquiries into telegraphists' cramp (1927)([1]), the investigation of neurosis among factory workers (1947)([2]), and more recently Spratling and Lloyd's study of 'Sickness Absence Statistics' of London Transport Workers and the sickness survey carried out among its staff by the County Borough of West Ham.

Enquiries into children's illnesses range from that relating to "children between the ages of 5-20 in the Sick Society of Bennet Street School, Manchester, 1830-32" to Bransby's study of sickness and absenteeism among selected groups of school-children during 1947-8. Statistics of notifications of certain infectious diseases have also been available for some forty years. More recently the Kent Paediatric Society has made a study of the positive aspects of child health ([3]), and in Newcastle, Spence and others have been following up a thousand families to study health and sickness in children([4]).

All that could be got from these studies, valuable as they might be in themselves, was a restricted picture of illness as it affects the community. The enquiries had been limited either to people in certain occupations or age-groups or to selected diseases only. There was no source from which the sum total of the nation's ill-health could be judged. Nor was any attempt made to study man in his natural habitat, the family, until the Pioneer Health Centre at Peckham was opened. Membership of the centre was open only to entire families and each member was regularly examined by a doctor and every possible source of ill-health investigated. The study of sickness was only incidental to the work of the Centre, whose primary object was the promotion of a happy, healthy and well-adjusted life. It was probably too prodigal of medical and other trained personnel to be feasible on more than an experimental scale. The venture was interesting, however, because it showed up one of the chief difficulties of sickness surveys, that of defining a healthy and a sick person. The Peckham Centre tried to solve this problem by laying down certain limiting levels of blood-pressure, haemoglobin, etc., and anyone who was outside the limits was regarded as imperfect in health. Perhaps not enough is known about individual variations to enable such arbitrary limits to be fixed; and the experiment, whatever its value in other directions, did not constitute an important source of morbidity statistics.([5])

Before the outbreak of War in 1939 there was therefore no single source from which a complete picture of the nation's sickness experience could be gained.

SURVEYS IN OTHER COUNTRIES

United States of America

In the Tenth Census, 1880, an effort was made "to obtain upon the schedules for the living population, the number of those who were, on the first day of June, so sick or disabled as to be unable to pursue their ordinary occupations".

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[1] *Smith, Culpin and Farmer (1927). A Study of Telegraphists' Cramp. Industrial Fatigue Research Board.*

[2] *Fraser, R. (1947). The Incidence of Neurosis among Factory Workers. Medical Research Council. Industrial Health Research Board. Report No. 90. H.M.S.O.*

[3] *Kent Paediatric Society. A Study in the Epidemiology of Health.*

[4] *Spence, J., Walton, W. S., Miller, F. J. W., Court, S. D. M. (1954). A Thousand Families in Newcastle upon Tyne. An Approach to the Study of Health and Illness in Children.*

[5] *Pearse, I. and Crocker, L. " The Peckham Experiment ". Allen and Unwin, 1943.*

This was the first experiment of the kind to be made in the United States. The question on the schedule applied to those over fifteen years of age. The mean number found sick per 1,000 living was 13.41 for males and 12.15 for females. The experiment was repeated at the Census of 1890, when one of the interesting findings was that the proportion of sick to total population in large cities was less than might have been expected considering that full returns of the hospital population were available there. This was thought to be due to some of the sick poor being treated in institutions outside the City limits, as in the case of Brooklyn, and also due to the enumeration of the sick outside hospitals being more defective in large cities than in smaller towns or rural areas. Both these enquiries had the disadvantage of being conducted at a time of the year when there would be a minimum amount of sickness among adults so that the morbidity rates obtained would be lower than average.

Other early enquiries in the United States were mostly confined to special groups of people or to special types and causes of illness. During 1915 the Metropolitan Life Insurance Company of New York in conjunction with the Bureau of Labour Statistics of the Federal Government carried out an unemployment survey among a million wage earners in selected cities. This survey showed that 11 per cent of unemployment was due to sickness or accident. This fact led the Insurance Company to undertake a further survey designed to measure the amount of prevalent sickness. The first enquiry was conducted in Rochester, New York, by the Company's agents, who were told to visit every family in their areas. In all 7,638 families comprising 34,490 persons were visited, about 14 per cent of the total population of Rochester. The enumerators were asked to report on the number of sick people up and about but unable to work and the numbers confined to bed at home or in hospital, because of disease or accident, during the week beginning 13th September, 1915. A distinction was thus made between those illnesses which resulted in incapacity (disabling illness) and those which did not.

A similar survey was carried out in Trenton, New Jersey, in October 1915. The next survey was made in the state of North Carolina during the week beginning 17th April, 1916; 14,112 families were canvassed, containing 66,007 persons, 43,468 white and 22,539 coloured. It was therefore possible to compare the amount of sickness in the white race with that in the coloured. The sample was about 2½ per cent of the total population of North Carolina but a much larger proportion of that of the counties in which the investigation was made. As in the preceding surveys illness was recorded under three heads:

(*a*) Persons up and about, but unable to work because of sickness or accident;

(*b*) Persons confined to bed at home because of sickness or accident;

(*c*) Persons receiving treatment in hospitals or other institutions for the sick.

Cases of sickness in which the patient was able to remain at work were not to be counted lest there should be recorded a large number of trivial or imaginary ailments. With regard to diagnosis, always a vexed question in surveys made by interview, the statements of disease were those made by the people concerned and written down by the interviewing insurance agents; hence they would not be accorded the same merit as if made by doctors. To determine the accuracy of disease reporting, more than 100 physicians were asked to confirm or deny individual diagnoses, but in 207 cases where information was received from a doctor only 14 changes were necessary, four of which involved reversal of the diagnosis and the other 10 the substitution of names of diseases for symptoms.

A fourth community sickness survey was made in Boston, Massachusetts, during the two weeks beginning 17th and 24th July, 1916; the methods of survey followed those of the preceding investigations. More than 300 insurance agents canvassed 20,497 families comprising 97,259 persons. The report is noteworthy for the first use of the term sickness rate for the number of persons sick per 1,000 persons interviewed: 18.0 white persons per 1,000 in this survey. The proportion of cases of sickness causing absence from work was 92 per cent.

These early surveys are interesting for the problems which they raised, for example:

(i) What proportion of the population must be interviewed in order to get a fair picture of sickness in the general population?

(ii) What reliance can be placed on diagnoses stated by the people concerned and written down by lay interviewers?

(iii) How can the overweighting of the morbidity rate by the inclusion of trivial ailments and symptoms best be avoided?

From December 1921 to March 1924 a survey, highly important from the point of view of methodology, was carried out by Sydenstricker in Hagerstown, Maryland. This district was chosen because of the facilities for investigation offered by the presence there of a health demonstration unit, and also because it was a fairly ordinary city and not greatly influenced by recent immigration. The survey aimed at finding disease incidence over a given period of time rather than at some particular moment as had been done in previous surveys. The population on 1st February, 1923, was estimated at 30,000 and in the Census of 1920, 93 per cent were native whites, 2 per cent foreign and 5 per cent coloured. The survey sample, which contained whites only, was chosen so as to represent different economic classes and also for convenience in repeated visiting, and the final tabulations covered 1,815 households comprising 8,587 persons. People who moved out of the city or to some part of it which was not convenient for visiting and those for whom the information obtained was unsatisfactory were excluded. Each household was visited by a trained field assistant at intervals of 6 to 8 weeks, and enquiries were made about the incidence of sickness in the family since the preceding visit, the date of onset, duration, extent of disabling effects and whether the patient received medical attention. For all such cases the informant's statements of diagnosis and cause of illness were submitted to the attending physician for approval or correction.

From the methodological point of view this survey is also interesting because of the definitions of illness used. Whereas the former surveys had counted as sickness those complaints which involved absence from work or confinement to bed, the Hagerstown survey defined illness as "what the informant meant by the common understanding of the term". Of persons who had a chronic illness, only those who felt ill-effects during the period of survey were recorded as having it; this probably resulted in the incidence being understated. The concept of an illness as a "continuous period of sickness" was rigorously applied, so that a person who had a succession of complaints within one continuous period without any time elapsing between them was said to have one illness. In a similar way, a person who had several chronic complaints contributing to a continuous illness was counted as ill only once, one of the diseases being regarded as primary, according to certain stated rules for selection, and the others as contributory.

It was felt that whereas a weekly enquiry would elicit more about slight ailments than would a monthly one, the spacing out of visits to six or eight weeks, as was done here, would fail to give information of many indispositions of short duration, or of several days' duration unaccompanied by much discomfort. In fact, of illnesses whose duration was exactly stated, less than 5 per cent were of 1 day or less and only 80 per cent were of three days or more, only 60 per cent of 8 days or more and only 40 per cent were not only disabling but caused confinement to bed.

In 1927 a twelve months' study of sickness in some rural districts was carried out by the New York State Department of Health. The survey related only to illnesses which had received attention from a doctor. One hundred and fifty physicians were provided with forms in which a number of diseases or disease groups were listed, and were asked to report the numbers of new cases (not of new patients) seen each week for a year. Sex was distinguished but no attempt was made to break down the information by age, occupation, duration or degree of severity. The forms were sent to the Division of Vital Statistics each week, so that a picture of the seasonal variation in numbers of cases was obtained. Another rural survey, on similar lines, was made in Essex County, New York State, during the year 2nd October, 1927 to 29th September, 1928. Since the area chosen contained a number of summer resorts, the enquiry was restricted to residents only. Other surveys made about this time included one made in 18 states in which 9,000 families were followed up for twelve months between 1928 and 1931 and at the same time other families were studied for varying lengths of time; 38,544 and 4,236 person-years of observations were covered by these studies.

A survey made in Syracuse, New York, between January 1930 and June 1931 was important, as it was the first in which the influence of the patient's memory on the morbidity rate was discussed. It was found that the rate for all cases of illness in the month immediately preceding the enumerator's visit was 1,272 per 1,000 population. The rates for illnesses 2, 3 or 4 months prior to the visit, however, ranged from 540 to 631 per 1,000 population—less than half the rate for illnesses reported in the first month prior to the family visit. This survey was followed in 1933 by the Health and Depression studies among 11,500 wage earners' families in 8 large cities and in 2 groups of coal mining and cottonmill villages.

None of these surveys was on a very large scale, nor did they go into much detail of classification. A much more ambitious investigation was carried out during the winter of 1935-36 by the United States Public Health Department.

This comprised:

(*a*) A house-to-house canvass of about 2,500,000 people in 83 large and small cities.

(*b*) A communicable disease survey in 32 cities.

(*c*) Special studies of health and medical facilities in counties included in (*a*).

(*d*) A special audiometric study of hearing loss in a sample of the surveyed population.

(*e*) Transcripts of records of industrial sick benefit organisations.

Four types of 'illness' were distinguished:

(*a*) Illness keeping a person from work, school or other activity on the day of interview.

(*b*) Illness which had disabled a person in the above sense for 7 days or more during the 12 months preceding the date of canvass.

(*c*) Chronic disease, whether or not it had caused disability.

(*d*) Gross physical impairment, including lost or impaired legs, feet, arms and fingers, and total or partial blindness and deafness.

In order to verify the diagnoses, the enumerators asked for the name of the doctor or hospital treating the patient, and requested permission for the Public Health Services to obtain further medical information from them for statistical purposes. Some doctors did not return the questionnaires sent to them, others returned them too late or failed to identify the patients' records. Many illnesses, especially chronic ones, did not receive medical attention. A medical report was received in 26.3 per cent of all diagnoses, and the family informant's statement of diagnosis was confirmed within 93 diagnostic groups in 83.3 per cent of the cases and within 7 broader groups in 92.9 per cent. It is clear from this American experience that in terms of any broad disease classification the report of the family informant will in general coincide with that of the doctor.

Another important study was made among 1,796 families in the Eastern Health District of Baltimore. An attempt was made to follow up each family over a period of 12 months sometime between June 1938 and May 1943, by means of monthly visits. A more scientific method of sampling was employed than in previous surveys, based on the city blocks in ten census tracts as sampling units, and aiming at getting enough blocks from each tract so that the sample from each would constitute the same percentage of the total sample as the white population of that census tract was of the whole white population of the Eastern Health District. Illness in this survey was defined as any affection or disturbance of health which persists for a considerable part of one or more days; defects and impairments were included as illness only if they were reported as disabling. The survey was conducted by monthly visits to the selected families, a method which is likely to produce a higher recorded illness rate than would a single visit survey.

Since these surveys had referred only to restricted areas and also because the methods used needed reconsideration, plans were made for a nation-wide survey of sickness. After being under discussion for some years, a proposal was made to spend $750,000 on a 12 months' study by the United States Public Health Service, covering all parts of the country and making a factual report on illness, but this met with some opposition and it was thought better to use a smaller and less expensive survey for working out the technique necessary for conducting sickness surveys before embarking on such a large project. The State of California was selected for initial study and in 1952 a pilot survey was started in San Jose and a nearby rural area, and was intended primarily as a study in methodology. In all 2,400 households were chosen for the enquiry, 2,100 in San Jose and 300 in the rural area; the final results covered 2,200 families or 6,400 persons. There were two main lines of enquiry, monthly interviews and the keeping of a day-to-day health diary. At the interviews information was collected for each person in the household, about illnesses, accidents and injuries on the day preceding the investigator's visit and during the preceding month, about chronic diseases and impairments and about hospitalisation during the preceding 12 months. In addition each member of the household was asked to sign a medical authorisation form which would permit the Californian Department of Public Health to get additional information for statistical purposes from the person's physician and also from other sources of medical records such as acute communicable disease reports, state disability insurance claims, physicians' first reports of work injuries, reports of crippled children's services, hospital discharge reports and death certificates. The Daily Health Records were kept by one person in each of about 1,600 families. These day-to-day accounts of illness and disablement were maintained on a monthly basis, by some people for 1-2 months and by others for 4 months.

A distinctive feature of this survey was that a preliminary letter was sent to the selected families, describing the purpose of the survey and enlisting their support. So far as definitions of illness are concerned, the criterion adopted in the San Jose survey was that a person is ill if he thinks he is ill. Special points of methodology to be studied by the interview method were:

(*a*) the effect of repeated interviewing on the data reported by respondents;

(*b*) the effect of interviewers on the data;

(*c*) the difference in quality of the data obtained for a given person by interviewing the person himself and by interviewing any responsible adult member of the household who is related to him.

Problems to which it was hoped that the diary method would point a solution were:

(*a*) the effect of continued diary-keeping on the data reported;

(*b*) how the data were affected by changes in household composition during the month studied;

(*c*) the number and type of contacts advisable during the month with those keeping diaries.

On comparing the data got from interviewing with those from diary-keeping, it was found that the former method was less expensive and presented fewer problems of interpretation and classification. The comparison showed that illnesses causing hospitalisation were reported as completely in interviews as in the diaries and illnesses causing disability almost as completely. The diary method, as might be expected, disclosed more minor ailments but on the whole it proved cumbersome and expensive.

Following upon the pilot study in San Jose, a state-wide survey by interview was begun in May 1954, to continue for one year. The sampling was undertaken by the U.S. Bureau of the Census, about 12,000 households with 35,000 persons being selected to represent the total population of the State of California. This larger study was designed to test the effectiveness of the methods elaborated from the San Jose experiment and also to obtain current and reliable illness and disability rates not previously available. Sample surveys were also undertaken in New York City, Pittsburgh, Baltimore, Kansas City and in Hunterdon County, New Jersey.

In January 1949 the United States National Committee on Vital and Health Statistics was established. Anticipating that the sample surveys would solve the methodological problems mentioned above, the National Committee established, in February 1951, a Sub-committee on National Morbidity Survey, and commissioned it to draft 'a plan for a national morbidity survey keeping in view the interests of local areas '.(1) The report of the Sub-committee led to the passing in 1956 of a Bill authorising the Surgeon General of the Public Health Service to conduct a continuing survey of illness and disability in the nation. The aim of the Survey was to provide information on which to plan and evaluate programmes of disease control and to estimate the economic consequences of sickness. Morbidity studies of the general population were also likely to furnish epidemiological clues for investigating the relationships between socio-environmental factors and disease.

Three types of investigation were authorised; a sample survey of the population, a series of special studies, and the development and testing of new or improved methods for obtaining current data. Priority was to be given to the first of these, which would consist of a continuous sampling of households on a national basis. After a preliminary period of testing it was expected to commence about July 1st, 1957, to collect statistical information for periodic publication. During the experimental period about 3,000 households a month were to be interviewed, and it was intended to increase this figure to about 3,500 by the end of 1957.

Canada

A survey of sickness in families was carried out in the East York-Lakeside areas of Ontario for one year from March, 1949. Two samples were chosen, one consisting of 148 families, comprising 536 people, selected at random from lists of voters, and the other of 140 families, with 642 people, chosen by district nurses on the basis of their apparent need for public health nursing service. Of the group of 148 families, 30 refused to take part in the survey and another 8 were discarded later for lack of co-operation. Among the remainder as many as 28 per cent failed to complete their reports in a particular month. The final results were based on 60 families in each sample. Those who participated were supplied with day-to-day calendars from which monthly reports were obtained. They were encouraged by frequent visits from district nurses and by monthly letters from the Public Health Department.

The first nation-wide survey was made in twelve months starting from the autumn of 1950. Its purpose was to estimate the incidence and prevalence of illnesses and accidents, the amount of medical, nursing and other health care received and the extent of family expenditures for various types of health services. The sample consisted of about 10,000 households; less than 5 per cent of these refused to take part and in the remaining households more than 80 per cent of

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[1] *The National Health Survey Act. U.S.P.H.R. Vol. 72, No. 1, Jan. 1957.*

the individuals remained in the sample throughout the survey period. The method of survey was by monthly visits from trained lay investigators who questioned a household informant, usually the housewife, about the sickness experience of members of the family. To aid the informant's memory each household was supplied with a special calendar in which a day-to-day record of sickness and expenditure could be kept. The 1951 Census taken about half-way through the year of the Sickness Survey provided population, social and economic data needed for calculating national rates. In this survey sickness was defined as any condition that the patient is aware of as something disturbing his state of health. Illnesses were sub-divided into new, recurrent and chronic after the pattern of the sickness survey of England and Wales.

Other Countries

Surveys similar to those conducted in England and America have been made in Japan and Chile. In Denmark a three-year survey was began in June 1951. There were two parts to the investigation, a personal morbidity enquiry by interview, begun in June 1951 and continuing for three years, and a hospital survey lasting one year from September 1952. The morbidity survey was based on a random sample of about 100,000 adults aged over 15 years, who were interviewed at the rate of 3,000 a month. As in the English survey, each person was interviewed once only, and asked about his sickness experience in the preceding month. The hospital survey related to 25,000 hospitalised patients, that is 5 per cent of all patients admitted to medico-surgical hospitals. The object of this was to find out whether the costly hospital services were being used by patients who could perhaps have been treated at home, and also to provide information on which plans could be based for building and expanding Danish hospitals.

Where the questionnaire showed that a doctor had been consulted for an illness, the diagnosis given by the informant was copied on to a separate form and sent to the doctor, who returned it with his comments. An unforeseen disturbance to the routine of interviewing occurred in the winter of 1951-52 when owing to an extensive outbreak of foot-and-mouth disease the survey was discontinued for three months lest interviewers, in passing from place to place in the country, should help to spread the infection.

THE ORIGIN OF THE SURVEY OF SICKNESS OF ENGLAND AND WALES

During the early years of the Second World War those responsible for maintaining the nation's health kept a more than usually careful watch. Food rationing, long hours of work and the black-out, apart from general stress and anxiety, were expected to have a deleterious effect on health. The year 1942 was one of record-breaking in vital statistics, the maternal and infant mortality rates, the proportion of stillbirths and the standardised death rate among civilians being the lowest ever recorded in England and Wales. The incidence of infectious diseases was also remarkably low. Such statistics, however, did not reveal the details of the national well or ill-being, since minor ailments and the "below-par" feeling did not come within their scope.

A number of nutritional surveys(¹) made during 1942 showed that there was no serious deterioration in the nation's state of nourishment. Nevertheless reports were received by the Ministry of Health of crowded surgeries and out-patient departments and of more complaints of feeling "tired" and "run-down". Claims to Approved Societies for sickness benefit under the National Health Insurance Scheme were clearly above the pre-war average; this was so throughout 1942 and could not therefore be due to a seasonal epidemic. There were many factors to account for these things, such as more intensive health education and more money earned, the need to obtain a doctor's certificate for certain kinds of foodstuffs, the shortage of proprietary medicines commonly used for self-doctoring, the fear of becoming seriously ill at a time when help was unobtainable and the need of the increased number of women workers to obtain medical certificates if away from work. The Ministry's report for 1943 concluded that in view of the decreased number of civilian doctors available, crowded consulting rooms did not necessarily imply an increase in the amount of illness, but that it was only to be expected that the fatigue arising from the tempo of war-time life would convert latent into subacute disease or protract recovery from minor illness.

As time went on and complaints of minor ailments and general ill-health did not subside it was realised that some factual information was necessary. The 1944 Summary Report of the Ministry of Health(²) agreed that the suggestion that the prevalence of minor ailments had increased might very well be true, in view of the higher average age of the civilian population, the strain of long hours of work and of spare-time duties. Under the aegis of the Ministry of Information there had come into existence in 1941 the Wartime Social Survey. Its functions included the conduct of enquiries on various topics among the general population, by which the government was provided with useful information on trends in public opinion and habits. This organisation offered to conduct an enquiry to find out if people were consulting their doctors more frequently than in peace-time and, if so, for what reason. While plans for making this survey were being discussed, the General Register Office put forward a proposal for an Index of Morbidity, which would be a statistical measure of the health of the community. The Index would take into account those who, in a given period, either died of a non-violent cause, experienced a serious, moderate or minor illness, complained only of ill-defined symptoms or remained healthy. The deaths could be got from the returns already made to the Registrar General; it was suggested that the remaining facts might be got from a sample survey of the general population. It was proposed that a properly selected sample of 10,000 people from the whole population should be interviewed at the end of each quarter and asked "Have you had any illness or ailment during the past three months, and if so what was it?". All that needed to be written down at interview would be an identification number for the person, and the name of the illness or symptom. The illnesses would then be coded and assigned to a category of severity according to a predetermined list of categories. If a person in the sample had died during the quarter, it would be necessary to find whether the death

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[1] *Ministry of Health. On the State of the Public Health during Six Years of War. Report of the Chief Medical Officer of the Ministry of Health. 1939-45, p. 119. H.M.S.O., 1946.*

[2] *Summary Report of the Ministry of Health for the year ended 31st March, 1944, p. 6 H.M.S.O., 1944.*

was due to a violent cause or not, since only illnesses and not injuries were being taken into account. If a person had moved away from his address, it would be necessary to make sure he had not died, and if possible to follow him up at his new residence.

One of the difficulties of this scheme was to make available enough trained interviewers to visit 10,000 people in the first weeks of each new quarter. Instead it was proposed to interview about 2,500 people each month and ask them about their illnesses in the previous three months. The enquiry was to be limited to people aged 16 to 64, that is, those in the working ages, because the classification of diseases into severity groups would depend to some extent on the time off work. The first interviews were made at the beginning of January 1944, when people were asked about their health in the three months October to December 1943.

Two main difficulties were found with the first month's sample; the time of 2 weeks allowed for interviewing was short, and the method of sampling (described below) resulted in a wide scatter of interviews especially in rural districts. It was therefore proposed that the sample should be modified by leaving out Scotland, limiting the number of districts in each region and cutting out all rural interviews. The time difficulty could be partly overcome by drawing two samples at once, and keeping the second one in reserve. Instead of omitting all rural interviews, it was decided to limit the scatter by taking clusters of addresses within the selected rural district.

After the preliminary trial of the plan for a Health Index, sanction was given in August 1944, for the continuance of the Survey. Interviewing was carried out in October and December of that year and from February 1945 the survey was made each month until March 1952, except in the General Election months of February 1950 and October 1951. People aged 65 and over were included from December 1944, the total size of the sample being increased to 3,000 a month and later to 4,000. From July 1949 the questions were restricted to the two months preceding the interviews, instead of three as formerly.

The survey set out with the declared object of providing a three monthly index of morbidity. Questions relating to some social and economic factors which might influence health were also included. The schedules were also able to serve the purpose of other interested enquirers into such things as overcrowding, and a number of supplementary questions were also added from time to time.

SAMPLING

The sampling design for the Survey of Sickness was one of the responsibilities of the Social Survey. The Survey of Sickness began with a monthly sample of 2,500 civilians aged 16-64; later people of 65 and over were included and the sample was increased to 3,000 and finally to 4,000. If a simple random sample of 2,500 people was taken from the civilian population, the geographical scatter of their places of residence would be such that the cost of interviewing would be prohibitive as regards both time and money. To be effective, interviewing had to be done in the first fortnight after the close of the quarter about which the enquiry was being made. It was thought best to use a multi-stage sample, that is, one in which a sample of first-stage units is selected and then within each first-stage unit, a sample of second-stage units is chosen, and so no. Stratification, that is, division into groups containing similar units, can be introduced at any stage and, provided that at least two units are selected from each of the final strata at each stage of sampling, it is possible to calculate sampling errors(1).

The cost of the field-work of the survey consisted of two parts, one depending on the number of investigators employed and the other on the total number of interviews. It was found that when the number of interviews in any district was about thirty, the cost was not excessive yet enough time was allowed for the interviews to be reasonably accurate.

In drawing a sample of a national population an obvious choice for the first stage would be administrative districts.* The first-stage units were stratified by the eleven Civil Defence Regions (Scotland was excluded) and within these by urban and rural districts.

In a number of previous surveys it was found that a further useful stratification was one connected with economic or income group of the individual and with occupation. Since it was necessary to select something about which information was readily available, a factor based on the rateable value of property in each administrative district was chosen and an index of industrialisation calculated, which was the ratio of industrial to total net annual value in each district. This index is calculable because Local Authorities are bound to keep their rating records in three groups of which industrial hereditaments is one.

The method of procedure was briefly as follows:

(*a*) The total number of interviews was divided among the eleven regions of England and Wales in proportion to the regional population.

(*b*) In each region the allocation of interviews was sub-divided in proportion to the urban and rural population of the region, obtainable from the Registrar General.

(*c*) For rural districts:

- (i) They were arranged in descending order of industrialization index.
- (ii) The cumulative total of their population was formed and a range of numbers allocated to each district, proportionate to the size of the population.
- (iii) If N was the total population a number was chosen at random between 1 and N, say x. The rural district was then selected in whose range of numbers x lay, and a second rural district by taking $x + \frac{N}{2}$ as the range-number. Thus two rural districts were selected, with probabilities proportional to their populations.

(*d*) For urban districts:

- (i) All towns of 300,000 and over were included in the sample. In selecting 4,000 out of about 40,000,000 the ratio is about 1 in 10,000. Any town of 300,000 would therefore provide about 30 or more interviews.

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[1] *Gray, P. G. & Corlett, T. Sampling for the Social Survey. Journal of the Royal Statistical Society, Vol. CXIII.2.1950.*

* See also Appendix I, *p.* 00.

(ii) The remaining urban districts were then divided up into the required number of strata, in descending order of industrialization index and with equal populations. Within each stratum the urban districts were regrouped on a basis of geographical zoning, for example coalfields, woollen manufacturing areas, dairy farming regions.

(iii) Two districts were then selected from each stratum in the same way as for rural districts.

Somewhat different arrangements were made for Greater London, based on the rateable value per head of population.

The last stage of sampling, which consists in determining whom to interview in a chosen district, must be based upon some list or record of the population. In the Survey of Sickness the lists employed were the National Register from 1st October, 1944, and later the Electoral Register. Each has its advantages and drawbacks. The National Register was compiled from an enumeration of civilian residents made on 29th September, 1939, on the basis of which Identity Cards and Ration Books were issued. A card was filed at the local National Registration Office for each resident in the district, the index being adjusted for births, removals or deaths immediately after these events. The cards in the adult register, which contained the names and addresses of people aged 16 and over, were pushed together and the total length measured. This length was divided up so as to provide the requisite number of names for interview by drawing cards at equal intervals starting from a card selected at random. By this method it was found that the proportion of cases in which no one in the household could be contacted and for which a substitute had to be taken was only 14 per cent. The advantages of using the National Register were that it was kept continuously up-to-date and administered uniformly throughout the country.

The National Register was discontinued in 1952; the Electoral Register was used instead for interviews in February, 1951, and onwards. The lower age-limit of the sample was therefore 21 instead of 16. The electoral register had the further disadvantage that it excluded aliens and that, since it was only revised at yearly intervals, it was not as up-to-date as the National Registration maintenance register.

Other countries have successfully used local registers of different kinds as sampling frames, and it is felt that this method of sampling, if not ideal, is at least quite adequate.

For each area to be sampled the following people were warned in advance that Social Survey investigators would be conducting interviews in the area:

(*a*) the National Registration Officer;

(*b*) the police;

(*c*) the Ministry of Health Regional Principal Medical Officer.

It was assumed that people might refer to them for further information about the enquiry.

DEFINITIONS AND CONVENTIONS

Illnesses

One of the difficulties of defining illness is that it is, to a certain extent, a subjective concept. People may be seriously ill, clinically speaking, and yet be unaware of the fact; on the other hand they may feel, and say they are ill, when there is nothing organically wrong with them. Unless each person interviewed by the Survey could have been given a full medical examination, and clearly this was impracticable, it was thought to be better to define illness by saying that a person is ill if he feels ill. The following definition was therefore made:

ILLNESS	A condition included in codes 001-795 of the International Statistical Classification of Diseases, Injuries and Causes of Death, 1948(1), which caused some disability during the period covered by the survey enquiry. By disability is meant that the subject was 'suffering from' it and was aware of its existence as something disturbing his state of health during the time.

Because of the way in which samples taken in consecutive months were combined, it was necessary to treat all illnesses on a monthly basis, and so a distinction had to be made between illnesses which began in any particular month and those which began before the month. At first three types of illness were distinguished, new, residual and chronic, which were defined as follows:

NEW ILLNESS	An illness which started for the first time during the survey period.
RESIDUAL ILLNESS	A continuous or recurrent illness, starting before the survey period, but not as much as a year before, and still present during the survey period.
CHRONIC ILLNESS	A continuous or recurring ailment, which started a year or more before the survey period.

These definitions show which illnesses began for the first time in any month and those which were present before and during the period, and hence enable us to calculate inception and monthly prevalence rates (defined below). So far as residual and chronic illnesses are concerned, the choice of one year as a time limit is arbitrary, and it may be contended that it is not likely to yield accurate replies, since people's memories are uncertain over periods as long as a year. On the other hand, if a distinction is to be drawn, a year seems as good a period as most and has the advantage of tying up with some of the definitions influencing assignment to certain codes in the Classification of Diseases.

Illnesses were subsequently divided up as follows:

NEW ILLNESS	An illness which began (in the sense of causing some disability as defined above) at some time during the month and which was not a recurrence as defined below.
RECURRENT ILLNESS	An attack of illness similar to one experienced previously, any such former attack having subsided at least one week before the present one began.

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[1] *International Statistical Classification of Diseases, Injuries and Causes of Death, 1948 (Sixth Revision of the International List). World Health Organization, 1948 (obtainable in the United Kingdom from H.M.S.O.).*

CONTINUED ILLNESS An illness present throughout or terminating during the period, which had started before the beginning of the period.

The concept of continued illness is necessary in order to obtain rates of sickness and prevalence as opposed to inception. It does not make any distinction between short-term illnesses which began just before the survey period, and long-term chronic illnesses. Information about these would best be got by analysing in broad groups the answers to the question "How long have you suffered from this illness?". In some cases there was difficulty in distinguishing between a recurrent and a continued illness, the person interviewed being unable to remember, for example, whether or not the headache which he had at the beginning of the survey period came on more or less than a week after a previous headache had cleared up. The suggestion implicit in the word "recurrent" is of an illness which has never completely cleared up and of which fresh attacks occur from time to time. If a person had a second attack of an infectious disease we should hardly think of it as a recurrent illness, and interviewers were in fact told to treat infectious diseases as 'New illnesses' even though the subjects had had them before. A gastric ulcer would be classed as recurrent if the patient was free for a week from attacks of pain and other symptoms. Some might argue that the ulcer, which was continuously present, should be treated as a continued illness. If we are to accept the basic definition that a person is ill if he feels ill, then it would be correct to treat fresh attacks of symptoms from an ulcer as recurrent illnesses. If we add new and recurrent illnesses together we can see how many people had an attack of an illness beginning in the survey month.

Classification of Illness according to its Severity

There are some illnesses in which the danger of death is so great that all would agree they should be classed as serious. For illnesses which are not generally fatal, some other measure of severity is needed, and one of the most useful is the number of days that the sufferer was incapacitated. For many diseases this period varies little from case to case and it is therefore possible for the degree of severity to be categorically assigned to each of such diseases. A further group, such as influenza or eczema, may differ in severity from person to person and season to season. The severity of these may be determined from the period of incapacity, but each case must be judged on its own merits. The same applies to injuries; a fractured skull is plainly serious, but an open wound may be a small cut requiring little attention and causing little inconvenience, or it may be a major injury with a number of complications, resulting in the patient being laid up for many months.

There remains a final group of ailments which may be actual disease entities or which may be symptomatic of some more serious disease. These ailments are mostly found in Codes 780 to 795 of the International Statistical Classification. A person who complains of cough may have a trivial ailment, but he may possibly have tuberculosis or cancer of the lung. In these cases the time of incapacity is the best measure of severity available; a person who is kept away from work for a long period by one of these symptoms is more likely to have some more serious underlying condition, though not yet detected, than one who coughs for two or three days.

With such considerations as these in mind, categories of severity were assigned to each of the conditions or groups of conditions shown in the tabular list of the International Classification of Diseases. Where the degree of severity was to depend on the individual period of incapacity, a range of categories was indicated. Symptomatic diseases which caused no incapacity were classed in category 5.

Category:

1.	SERIOUS ILLNESS	One which involves considerable risk of death (immediate or delayed) or which produces a total incapacity to work for four weeks or more.
2.	MODERATE ILLNESS	One which does not generally involve the risk of death but usually produces from 7 to 27 days of incapacity.
3.	MILD ILLNESS	Ditto, but usually producing from 3 to 6 days incapacity.
4.	MINOR ILLNESS	Ditto, but usually producing 0 to 2 days incapacity.
1-5.	SYMPTOMS	Symptoms without a more definite diagnosis, producing up to a month of incapacity.

Chronic illnesses, that is those which had lasted a year or more, were also assigned to categories of severity according to the number of days of incapacity they caused in the particular month. For a person who was seldom or never out of doors or out of bed, all chronic continuing illnesses were put in category 1. An employed person with a chronic illness might be away from work frequently and therefore his illness be assigned to category 1 of severity, whereas a housewife, although suffering to the same extent might be able to keep up and about in the house or to go out, and so her illness would be in a lower category. This apparent anomaly arises from the fact that the severity of an illness can only be measured in terms of some outward manifestation. It seems not unreasonable to say that, from the point of view of the worker, his employer and his family, his illness is more serious in its economic effects than that of the housewife. Under these rules of assignment, a chronic continuing illness in a person who is bedridden or who seldom or never goes out of doors, is placed in category 1; it seems possible that there may be some over-statement here and that it might be better if these illnesses were classified on the same basis as the rest.

The following are some typical examples of the assignment of categories of severity.

Category 1. Serious	**Category 2. Moderate**
Respiratory tuberculosis	Cataract
Erysipelas	Bronchitis
Malignant neoplasms	Keratitis
Rheumatic fever	Chronic enteritis
Hypertensive heart disease	Puerperal pyrexia
Influenza with pneumonia	Diabetes mellitus

Category 3. Mild
- Rubella
- Facial paralysis
- Acute tonsillitis
- Anal abscess
- Impetigo
- Bursitis

Category 4. Minor
- Pediculosis
- Urticaria
- Chronic pharyngitis
- Caries of teeth
- Disorders of menstruation
- Acne

Category 1-4. Depending on Incapacity
- Hay fever
- Polyneuritis
- Migraine
- Congestive heart failure
- Influenza without pneumonia
- Hypotension

Category 1-5. Symptoms
- Diarrhoea
- Tachycardia
- Cough
- Jaundice
- Loss of weight

Rates

The following four rates were the ones principally used.

1. SICKNESS RATE	Number of people, per 100 interviewed, reporting some illness or injury in a month regardless of when they began to be ill. (This rate can never exceed 100).
2. PREVALENCE RATE	Number of illnesses and injuries reported in a month, per 100 interviewed. (This rate can exceed 100 as some people report several ailments.)
3. INCAPACITY RATE	Number of days away from work during the month, or for people not usually employed, the number of days confined to the house, per 100 interviewed.
4. MEDICAL CONSULTATION RATE	Number of visits in the month made to or by a medical practitioner, per 100 interviewed. (This includes visits to medically qualified ophthalmic or other specialists but excludes visits to dentists and attention received while a hospital in-patient.)

These titles have since been superseded by those described in 'Measurement of Morbidity' (Study No. 8), viz.:

1. MONTHLY PREVALENCE RATE (PERSONS)	Number of persons who were ill at any time during the month, irrespective of when the illness began, per 100 interviewed about their experience in the month.
2. MONTHLY PREVALENCE RATE (SPELLS)	Number of illnesses per 100 persons interviewed, present in the sample at any time during the period, regardless of when they began.

3. AVERAGE DURATION OF INCAPACITY PER 100 PERSONS	Number of days away from work (or confined to the house) in the period, per 100 persons interviewed.
4. CONSULTATION RATE	This remains unchanged.

Days of incapacity were generally defined as all days spent indoors or away from work by anyone in the sample.

The Chief Wage Earner, referred to in the schedule, is the Senior Male in full employment, or where he is under 20 years of age, then the Senior Female in full employment, if she is an adult. In interviews from June 1950 onwards, the subject was asked for his own income group and that of the head of the household; this was, however, a much less satisfactory method of classification, especially at a time when so many people in higher income groups were living with elderly parents who might be dependent on a small pension.

Normal pregnancy and childbirth were excluded from the ailments section unless they resulted in time off work. Slight morning sickness would therefore be excluded but severe morning sickness would be counted as a complaint.

THE INTERVIEW: THE SCHEDULE: PROCESSING

The interviewing for the Survey of Sickness was originally done by the full-time staff of the Social Survey, but as it occupied about a quarter of their time and had to be done in the first week of the month, from 1945 onwards special part-time workers were employed. These people worked in their own localities, about a hundred of the three hundred on the panel being occupied each month. The interviewers were in the charge of six Regional organisers who met at monthly intervals to discuss difficulties with the staff of the headquarters office of the Social Survey. They also met the local interviewers each month to see that new instructions were understood and to deal with any faulty schedules which were referred to them from headquarters. Every effort was made to ensure that capable people were recruited as interviewers. Much care was given by the Social Survey to their training and emphasis was laid on the need to conduct an unbiased interview and to note down information while it was being given.

The interviewers began by explaining that they were helping in a nation-wide survey aimed at providing the Ministry of Health with an account of the people's state of health. They invited co-operation, pointing out that other people would be asked in other months, and that while response was voluntary, success depended on as many helping as possible. It was stressed that the forms were anonymous and that there was no other practical way of getting the information. As a result, less than one per cent refused to answer.

If the interviewer did not get a full interview on the first call, he would try to make an appointment to call back. There was a fairly high rate of failure to contact the people on the sample list, many being young folk or others with many spare-time activities. Shift workers and people, such as commercial travellers, whose occupations frequently took them away from home were also difficult to contact. A number of people had moved away—a disadvantage of using the Electoral Register as a sampling frame. In addition some people were too ill to be interviewed. If the interviewer made three unfruitful calls he would then try to get a proxy. A first-class proxy was someone who had been in close touch with the subject, such as the person chiefly responsible for looking after him, during the three months to which the survey related. Proxies therefore had to be closely related to the subject, father, mother, husband, wife, son, daughter, sister or brother; people who were working full-time or were often out of the house were not to be chosen.

If the interviewer failed to find a satisfactory proxy to answer his questions about the subject's health, a non-contact schedule had to be filled in, giving such information as could be obtained and stating why contact had not been made. A non-contact schedule had also to be completed for people who had died or who were inmates of institutions for the sick or the aged throughout the two or three months under review or who had been in the Armed Forces at some time during that period. For those who could not be contacted and for whom no first-class proxy could be got, a substitute was selected from among the extra names drawn for this purpose when the sample was taken. The substitute had to be of the same sex and age as the original person and geographically as near as possible.

A copy of the most recent schedule is on page 80. The questions were asked in the order in which they appeared on the schedule, though vague answers to earlier questions were sometimes made more precise in consequence of information got later on in the interview. The first question was always "How was your general health during . . . .?" (the months specified on the schedule). The second question was "Did you have any illness, ailment, poisoning or injury, or trouble with long-standing complaints during these months?". Space was provided for recording six illnesses and two injuries. Interviewers were told to record the name of the complaint if known, with as full a description as possible; this was to help in classifying the ailment. Further questions could be asked at discretion, for example "How does this affect you? Where do you feel it? etc.". The interviewer was reminded not to suggest an answer or name as for example by saying "Was it influenza?". Considerable care was required at this stage to avoid suggesting complaints to the subject or causing him to produce an untrue answer to please the interviewer and yet getting all ailments recorded, no matter how slight. The interviewer was warned emphatically against making any diagnosis himself from the symptoms the subject had described.

When the informant had reported all the complaints he could think of, the check list (page 3 of schedule) was introduced, by saying that as no warning of the interview was given we wanted to help the informants to recall anything they might have forgotten. The check list had to be read slowly enough to allow the informants time to think and in such a way that they would feel that any complaint they had was of interest. But at the same time, care had to be taken not to emphasize some complaints more than others and especially to avoid giving the impression of being determined to make the informant remember some ailment.

These arrangements for recording diagnosis were not ideal, but they were a reasonable compromise. There was a source of error due to the individual possibly describing his complaint incorrectly and a further source if the interviewer recorded it wrongly. On the other hand, had the interviewers been better instructed in disease terminology, they would have been more tempted to make their own diagnoses. These might have been easier to code, but they would have biased the results in favour of the interpretations of individual interviewers. The coding of illnesses entered on the schedules was not always easy and could not hope to be always correct, but it had the merit of uniformity and those responsible knew where the defects were. One difficulty was that an illness might be entered on one line and apparently symptoms of it entered separately on other lines as if they had been separate complaints. While this would bias the number of ailments recorded, it did not greatly affect results based on the selection of the most severe disease recorded in a month, since generally the disease itself would be assigned a higher category of severity than the symptoms. In cases where several items were entered on one line the coders were allowed to exercise some discrimination, thus:—

Anaemia, general weakness, difficult breathing, was assigned to Anaemia.

But where two items which were obviously unconnected were entered on one line, they were coded on separate lines, thus:

Bronchitis and haemorrhage of eye due to accident, was assigned to

Bronchitis

Haemorrhage of eye.

Among other questions requiring special care were numbers 4 and 6. People were inclined to 'round off' the number of days in bed or in hospital by saying "I was in bed a fortnight" or "in hospital for a week". Illnesses often do involve weekly periods, especially where doctors' certificates are concerned, but the interviewers were reminded to check such answers by asking "Were you in bed *exactly* a week—Monday to the next Sunday, for example?".

In question 5 (number of medical consultations) the interviewers were reminded that only visits where a patient actually consulted a doctor (including medically qualified eye and other specialists) were to be counted. At one stage for example it was found that some interviewers had been including visits to Out-patient Departments when the subject had not seen a doctor. It was only possible to check the recording of medical consultations for a very few schedules, but among these it was found that very few of the consultations had been incorrectly entered.

The value of a survey such as this is bound to depend to a large extent on the quality of the fieldwork. On the whole this was very satisfactory although from time to time there was an instance of vague information. Thus cases were found in which patients had had several major operations for a condition and considerable absence from work, and yet the patient had only named a trivial symptom as his ailment, perhaps being unwilling to disclose the exact nature of his illness. In such cases it is difficult for an interviewer to know how far he can press for a more definite statement of illness without unduly distressing the subject.

So far as the quality of the informant's statement of his disease is concerned, educational and social levels are likely to affect the accuracy of reporting. A person who was being attended by his doctor would also be more likely to give an accurate account of his ailments. Stocks(1) considered the reliability of the statements made by subjects interviewed, and found that for diseases which required notification or which entitled people to special food rations, the correlation between the results of the Survey of Sickness and figures from other sources, such as the Ministry of Food, was reasonably close. It may be correct to infer from this that on the whole the reporting of diseases was not unduly erroneous, but on the other hand both notifiable infectious illnesses, and those for which food supplements were allowed, required medical certification, and this, together with the fact that such illnesses are very definite entities, may have accounted for the accuracy of reporting.

When a person reported two or more concurrent ailments and a period of incapacity, there was no means of knowing which ailment was in fact responsible for the informant being away from work. Thus two people might report bronchitis and varicose veins; one might be away from work due to bronchitis and the other because of trouble with his veins. The interviewers might with advantage have been told to find out in every case which disease was responsible for the period of incapacity. In cases where two or more concurrent illnesses were present and the subject could not assign their respective days of incapacity, an arbitrary rule was made and applied also to medical consultations:

(1) If one (or more) of the concurrent conditions is of higher category of severity than another, assign all to the illness of highest category. (If more than one such illness, distribute as in (2) amongst the illnesses of highest category.)

(2) If distribution has to be made amongst two or more illnesses of the same category, divide equally, but if that produces a fraction, assign a higher whole number to the first mentioned.

e.g. 2 illnesses in Category 2 and 1 in Category 3 and 5 days of incapacity;
assign 3 days to the first mentioned in Category 2,
2 days to the second mentioned in Category 2,
0 days to the illness in Category 3.

Various changes were made in the layout of the schedule so as to simplify the field-work and also enable punched cards to be prepared directly from it without using punching slips. The order of questions had, however, to be retained, as trial studies showed that a change in order would produce differences in response which would affect the continuity of the statistics.

An example of this was seen when towards the end of 1949 it was proposed to introduce an amended form of schedule. To test the effect of an alteration in the order of questions a number of revised schedules were used in a pilot survey in the London area and the results compared with those obtained from a similar number of people interviewed in the same area in the same months, October and November 1949. The numbers involved were 2,336 using the pilot schedule and 2,392 using the standard one. The order of questions on the standard schedule was:

Q.2. Did you have any illness, ailment, poisoning or injury of any kind or trouble with longstanding complaints during . . . . ?

Q.7. Did you consult a doctor for . . . . } each illness mentioned in Q.2.
Q.8. Were you in hospital for . . . . }

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[1] *Stocks, P. (1949). Sickness in the Population of England and Wales in 1944-1947. General Register Office: Studies on Medical and Population Subjects, No. 2. H.M.S.O. 1949.*

On the pilot schedule the order of questions was:

Q.2. Have you been in hospital as an in-patient since . . . . ?

Q.3. Have you consulted a doctor for any illness, ailment or injury since . . . . ?

Q.4. Have you been to a dentist since . . . . ?

Q.5. Have you had any illness or any trouble with longstanding complaints since . . . . for which you have not consulted a doctor?

Comparison of the answers showed the following results:

	Number of Illnesses Reported		Percentage Difference†	Twice Standard Error
	Pilot	Standard		
New Illnesses—				
Serious, moderate, mild	77	70	+0·37	1·0
Minor	426	395	+1·73	2·2
Ill-defined	48	50	−0·03	0·8
Recurrent Illnesses—				
Serious, moderate, mild	26	49	−0·94	0·7
Minor	376	482	−4·06	2·2
Ill-defined	170	241	−2·80	1·6
Continued illnesses—				
Serious, moderate, mild	153	180	−0·98	1·5
Minor	1,312	1,066	+11·64	2·8
Ill-defined	423	342	+3·81	2·2
Medical Consultations		Good agreement		

† *Difference in number of illnesses per 100 interviewed.*

There was no significant difference in the number of new illnesses between the two schedules. Minor and ill-defined 'recurrent' illnesses were significantly less in the pilot enquiry, whereas minor and ill-defined 'continued' illnesses were significantly more. This suggests that many minor and ill-defined ailments which in reply to the standard questions would be described as 'recurrent', would, in reply to the pilot questions, be classed as 'continued'. The increase of 246 in minor continued illnesses suggested in addition a further real increase. This might be due to the new arrangement, which, after eliciting the complaints for which hospital or other medical care was required, tended to make the subject concentrate on minor ailments which did not require consultation. There seems little doubt that the number of minor ailments reported varies directly with the intensity of questioning, and that by spreading the net sufficiently wide, most people could be got to confess to some minor complaint. It is debatable, however, whether such intensive questioning is bringing us nearer to a true picture of the state of health of the community.

The swing-over in classification from recurrent to continued illnesses appeared to be due to changes in definition and to a lack of precision in the pilot questions. With the standard schedule a 'continued' illness was either one which began near the end of the preceding month and was still present at the start of the index month or which began near the start of the index month and within one week after the cessation of a previous attack near the end of the preceding month. A 'recurrent' illness was one which started in the index month and of which there had been one or more previous attacks, the last one having ended before the beginning of the index month and more than a week before the onset of the new attack. On the pilot schedule the question asked was:

> "When did it start? and (if not New) how often did it trouble you?" (If obviously continuous, e.g. pneumonia, do not ask but ring code 9.)
>
> There followed two statements about 'frequency' i.e.
>
> 'Less than once a week' (code 8).
>
> 'Once a week or more' (code 9).

By deciding that a complaint was 'obviously continuous' the interviewer was saved from asking a more troublesome question; this would tend to increase the number of times code 9 was ringed, and so inflate the number of 'continued' illnesses.

A 'continued' illness, in the sense of the standard schedule, which began near the end of the preceding month and was still present at the start of the index month could only be placed, on the pilot schedule, under the heading 'less than once a week' which was hardly a satisfactory classification. Whereas the standard distinction between continuous and recurrent depended on the length of time between the end of one attack and the beginning of another, the distinction in the pilot schedule appeared to be between dates of onset of two consecutive attacks.

These considerations showed plainly that considerable caution is necessary in changing the ordering and wording of questions and in this particular instance the probable break in comparability of the statistics led to a decision to make no change.

Processing

The coding of non-medical items was done by the staff of the Social Survey. Coding of illnesses, assignment of categories of severity and the partition of periods of incapacity and medical consultations between concurrent illnesses was done at the General Register Office. Tables were regularly published in the Registrar General's Quarterly Returns from 1947 onwards, a short list of eighteen causes being used in tables relating to diagnosis.

From 1943 to 1948 disease coding was done according to the Medical Research Council's Provisional Classification of Diseases and Injuries(¹) and from 1949 onwards according to the Sixth Revision of the International Statistical Classification (World Health Organization, 1948)(²).

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[1] *Medical Research Council's Special Report Series No. 248: Provisional Classification of Diseases and Injuries for Use in Compiling Morbidity Statistics. H.M.S.O. 1944.*

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New, Recurrent and Continued Illnesses, 1947, by Month of Experience and Severity. (Persons aged 16-64)

A = Illness experienced in the month before interview;
B = Illness experienced in the last month but one before interview.

New Illnesses

Month of Experience	Serious		Moderate and Mild		Minor and Ill-defined		All Illnesses	
	A	B	A-B	B % of A	A-B	B % of A	A-B	B % of A
January ..	12	19	+ 63	65	+215	72	+271	72
February ..	10	12	+ 37	74	+ 95	86	+130	84
March ..	8	9	+ 16	86	+ 69	86	+ 84	86
April	4	4	+ 13	83	+153	64	+166	67
May	3	2	+ 10	84	+122	69	+133	71
June	8	5	+ 19	66	+125	63	+147	63
July	4	3	+ 19	73	+172	49	+192	53
August ..	1	1	+ 17	72	+ 44	84	+ 61	82
September ..	6	3	+ 23	70	+312	46	+338	49
October ..	2	3	+ 40	55	+350	54	+389	54
November ..	5	4	+ 19	80	+413	51	+433	54
December ..	6	3	+ 36	65	+338	60	+377	60
	69	68	+312	72	+2,408	64	+2,721	66

Recurrent Illnesses

	A	B	A-B	B % of A	A-B	B % of A	A-B	B % of A
January ..	19	11	− 15	156	− 7	101	− 14	102
February ..	9	14	+ 9	73	−122	118	−118	117
March ..	12	12	− 5	122	+ 74	91	+ 69	92
April	5	7	− 12	160	− 24	104	− 38	106
May	5	9	+ 6	81	− 22	103	− 20	103
June	10	4	+ 6	76	+ 57	92	+ 69	91
July	3	1	+ 14	52	+ 55	92	+ 71	90
August ..	1	8	+ 9	57	+ 72	89	+ 74	89
September ..	9	1	+ 2	91	− 49	108	− 39	106
October ..	2	8	− 4	119	− 26	103	− 36	105
November ..	13	9	+ 11	69	+ 24	97	+ 39	96
December ..	9	5	+ 4	88	+137	83	+145	83
	97	89	+ 25	92	+169	98	+202	98

Continued Illnesses

	A-B	B % of A	A-B	B % of A	A-B	B % of A	A-B	B % of A
January ..	—	100	+ 45	19	+191	90	+236	89
February ..	− 4	104	+ 2	98	−101	106	−103	105
March ..	+ 28	73	+ 20	85	− 20	101	+ 28	99
April	− 8	115	+ 20	79	−117	107	−105	106
May	− 14	127	− 4	105	+175	91	+157	92
June	+ 11	82	+ 27	74	+ 38	98	+ 76	96
July	+ 19	65	+ 19	76	+ 57	97	+ 95	95
August ..	− 27	173	—	100	− 54	103	− 81	104
September ..	+ 26	55	− 7	110	− 60	103	− 41	102
October ..	− 48	233	+ 27	73	+261	86	+240	88
November ..	+ 8	90	− 2	102	+ 12	99	+ 18	99
December ..	+ 7	89	+ 56	51	+ 53	97	+116	94
	− 2	100	+203	83	+435	98	+636	97

More new serious illnesses occurring in January, February and March were remembered two months later than one month later. For moderate and mild illnesses, the numbers remembered two months back ranged between 55 and 86 per cent of those remembered one month back, and for minor and ill-defined illnesses between 46 and 86 per cent. Recurrent and continued illnesses were not, however, subject to a consistent decrease in remembrance but to a variation from month to month.

Combining illnesses remembered one month back with those two months back had the merit of approximately doubling the number of people who contributed to the total of each month's sickness experience. By doing this a deficiency in the number of new illnesses reported was caused, but whether this was due to illnesses being remembered but assigned to a later month or whether some less serious ailments which occurred two months back went unrecorded, it is not easy to say. It seems unlikely that the transfer of illnesses from one month into the next would be sufficient to account completely for the deficit. If the defect in B was simply due to omissions, the difficulty could be overcome by applying a rating-up percentage to the numbers of illnesses reported two months back, before combining them with the A numbers, but no attempt was made during the Survey to correct by such a factor.

The sickness, prevalence, incapacity and medical consultation rates (as defined on page 19) for illnesses reported at interviews in the following month (A) or next month but one (B) are compared below; the statistics are for 1949, and relate to people aged 16 and over.

Month of Experience	Males								Females							
	Sickness		Prevalence		Incapacity		Consultations		Sickness		Prevalence		Incapacity		Consultations	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B	A	B
January ..	70	63	137	124	116	138	44	43	80	73	200	172	134	117	59	53
February ..	72	64	145	131	156	113	55	45	81	76	189	182	132	138	63	49
March.. ..	73	63	146	119	151	106	57	36	81	75	201	179	158	139	57	53
April	65	61	124	120	83	98	35	40	77	74	187	174	96	104	53	46
May	67	58	132	110	101	93	46	38	77	70	186	154	83	72	44	41
June	61	58	119	107	88	89	40	39	73	70	164	154	69	100	42	44
July	62	56	117	99	87	79	45	34	73	69	163	147	91	77	48	48
August ..	60	56	109	101	84	77	41	29	72	69	157	148	75	59	47	42
September ..	62	53	115	97	86	77	37	39	74	68	164	145	68	79	49	41
October ..	68	57	130	106	100	100	49	35	79	71	176	153	117	116	47	47
November ..	72	59	137	113	125	112	43	37	80	70	183	161	160	117	55	46
December* ..	68	—	131	—	123	—	43	—	78	—	183	—	138	—	46	—

* There were no interviews in February, 1950.

The sickness rates based on A were in each month higher than those based on B, showing that the percentage of people who recorded having had an illness was higher when the interviews were in the next month than when they were a month later. The prevalence rates showed month by month a deficit in the second month back. Incapacity and medical consultation rates were not subject to such uniformity, although in most months the A rates were in excess of the B rates.

The inclusion of the experience of the second month before interview was worthwhile as an experiment. If it were to be retained in a permanent survey, it would be necessary to apply correction factors to the experience of the second month back. Before deciding, however, it would be desirable to experiment also with taking only one month back. In the present survey the experience of the second month back was retained more from a wish to preserve the continuity of the statistics than from any positive conviction that the figures for the second month back should be retained.

The check list referred to above (page 21) was introduced in the hope of eliminating some of the effects of memory loss. All ailments were coded ' before ' or ' after ' prompting. Although no detailed analysis has been made, the result of examining small batches of schedules suggests that the proportion of continued and recurrent to new illnesses was greater after the check list was used. So far as rates are concerned it appears that the check list would increase the sickness rate slightly and the prevalence rate to a greater extent.

It is probable that numbers of minor and symptomatic illnesses would also be considerably increased in relation to serious and moderate ailments. The efficiency of the interviewer would, however, come into play here, a more experienced interviewer recording less additional illnesses after prompting, since many of these would be recognised as symptoms of serious or moderate ailments recorded before the use of the check list.

SICKNESS AMONG CHILDREN UNDER 16 YEARS OF AGE

One of the criticisms made of the Survey of Sickness was that children under 16 years were not included. Mortality statistics have shown a decline in deaths from the common infectious diseases, but little is known about the incidence of other illnesses, which might permanently retard physical and mental development and reduce a child's subsequent capacity to work and enjoy life and also impose burdens on parents and medical resources. Arrangements to extend the enquiry each month to about 700 children under 16 years of age had been completed shortly before the Survey was discontinued at the beginning of 1952 and a pilot study had already been made in the London area.

There would have been several advantages in using the Survey technique to obtain information about children's illnesses. Boys and girls of all ages can be covered, whereas school medical records do not include those under five and hospital records often make a break at 14 years, children's wards only receiving patients up to that age. Sickness of all degrees of severity can be covered and related to home conditions, and information obtained about the periods of incapacity caused. The Survey schedule can always be adapted to meet new requirements.

It was intended that the National Registration local registers should be used as a sampling frame. The existing schedule was adapted for use with children and this made it possible to use the same machine-card headings. Among the changes made were the substitution of ' guardian's ' circumstances for those of ' head of household ', and a question was asked to find out if the mother was working. But whereas the adult survey covered sickness experience of two months preceding interview, the children's enquiry was to refer only to the previous month.

At the time when the children's survey was being planned the method of recording, on the adult schedules, the time away from work, indoors or in bed, was being reviewed. For those under 16 years it was proposed to ask:

(*a*) For all children—Did the illness prevent him/her from going out-of-doors? (Record number of days) (*b*) For those going to school or work

(i) Did it prevent him/her from going to school or work? (Record school or working days lost only)

(ii) How many days was he/she either away from school or work or indoors? (Record both days indoors but not away, i.e. at weekends or holidays, and days away but not indoors).

After the pilot trial in London, 152 schedules were examined and it was found that congenital defects were being recorded which had not caused any trouble during the period. It was decided to continue with this recording but distinguish those which were merely present from those which caused inconvenience during the month. A check list for congenital defects was compiled, comprising squint; defects of sight, speech and hearing; hare lip or cleft palate; flat foot, club foot or other abnormality of the limbs. For tabulating the results it was intended to make an age-split of 0-4, 5-10 and 11-15 years. A short list of ten disease groups was made:— eye affections; ear and mastoid disease; rheumatism; colds and influenza, sore throat; other respiratory disease; digestive complaints; other defined illnesses; ill-defined symptoms; injuries. The pilot schedules showed that many of the complaints listed were of an indefinite nature. The conclusion of the Survey, however, prevented any further attempts at evolving a suitable methodology for applying the Survey technique to the special problems of children's sickness.

SUPPLEMENTARY QUESTIONS

From time to time additional questions were introduced into the Survey Schedule; they were included only for short periods and were designed to throw light on special problems of the moment. The most important were as follows:

1. Mumps and Diabetes

It was suggested that diabetes may arise as the result of damage to certain cells of the pancreas by the virus of mumps. To test this hypothesis the following questions were added to the schedule in interviews from August, 1949 until July, 1950.

Question 1. Have you ever had mumps?

(1) Definitely yes; (2) Probably yes; (3) Probably no; (4) Definitely no; (5) Don't know.

If definitely or probably yes,

Question 2. Can you remember how old you were when you had it?

If the subject asked what sort of disease mumps was, the following definition was read:

'Mumps is a catching disease, usually of young children, though occasionally adults get it. There is swelling of the glands on one or both sides of the face just below the ear and above the angle of the jaw. The swelling lasts a few days and it may hurt to try to open the mouth wide. There is no rash.'

The General Register Office analysed 43,041 replies to these questions but no evidence of association between diabetes among adults and a history of mumps was found. From the replies about age at which an attack of mumps was experienced it was estimated that perhaps a quarter of boys and a third of girls will have had mumps by the age of 15, and that about a third of men and half of women will have had mumps at some time during their lives.

2. Consumer Expenditure in Chemists' Shops

During April and May, 1949, questions were asked about personal expenditure on pharmaceutical products, including the name of the medicine purchased, whether obtained on N.H.S. prescription, ordered by a doctor, paid for privately or not prescribed by a doctor, the quantity, cost and date of purchase. This information was for Consumer Expenditure studies made by the Central Statistical Office.

3. Use of Sensory Aids

(*a*) An enquiry was made by the Social Survey into the number of people wearing spectacles (Gray, 1951)(1.)

(*b*) For the Medical Research Council questions were added during 1947 to estimate the incidence of deafness and the potential demand for hearing aids.

4. Use made by the public of the National Health Service

In the last months of the Survey an enquiry was conducted for the General Practice Committee of the Central Health Services Council about the use people were making of the National Health Service and the frequency of their visits to doctors. The subject was first asked if he had consulted his doctor during the last seven days. If he had, the following questions were asked:—(*a*) on which day; (*b*) at home, surgery or other place; (*c*) at what time of day; (*d*) the reason for the visit; (*e*) whether given medicine, pills, ointment or a prescription for any of these; (*f*) whether given a certificate for Sick Benefit, to show to an employer, for eye tests or for obtaining supplies such as cotton wool; (*g*) whether given an introduction to a hospital or specialist; (*h*) whether subject saw his own doctor or someone else; (*i*) whether consultation was made under the Health Service or as a private patient.

All persons interviewed were then asked if they were on a doctor's list under the National Health Service and if so whether they ever went to another doctor as a private patient. Those who were not on a list were asked for their reasons.

CRITICAL APPRAISAL

While the main purpose of this report has been to describe the origin, the methods, and some of the results of the Survey of Sickness, the report would be incomplete without some attempt at a critical evaluation of the survey.

There are two main aspects from which this evaluation can be made, first as regards the soundness or otherwise of the methods employed in the survey, and second as regards the usefulness of the information obtained.

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[1] *Gray, P. (1951) Who wears Spectacles? Lancet No. CCLXI, Vol. 2, p. 537.*

Foremost amongst the features for which the Survey of Sickness has been adversely criticised has been that the information it produced was obtained from patients themselves and not from medical sources. As every doctor knows, the accounts which many patients give of their present and past illnesses are often unreliable, and not to be taken at face value; and, while such information can be immediately interpreted and used by the doctor as he interrogates and examines his patient, no such medical editing of the patients' diagnostic statements had a place in the methodology of the Survey of Sickness. Though patients no doubt described their complaints correctly and did their best to report diagnoses that their doctor had mentioned, it is probable that non-medical enquiries about illnesses produce less accurate diagnostic information than that obtained from medical practitioners or from any form of medical record prepared by them. This deficiency of the Survey of Sickness has all along been recognised by its organisers, and at its outset the Survey was introduced as a method of obtaining *some* information about the prevalence of illness, in the absence of any information at all, without resort to medical sources. Though the validity of non-medical information about diagnosis is less than that from medical sources, and though this necessarily imposes a limitation on the validity of the Survey of Sickness, it would be wrong to regard the Survey as lacking in all value simply because the diagnostic information was imperfect. Comparisons between the prevalence of certain diseases, such as diabetes, as estimated from the Survey of Sickness, compared reasonably well with estimates based on other records (Study No. 2), and checks between patients' statements at interview and their doctors' records that have been carried out elsewhere (see page 5) have indicated a good degree of correspondence. Shortly before the Survey of Sickness came to an end in February 1952 plans had been made to carry out a series of similar checks in this country, with the co-operation of a number of general practitioners, but the termination of the Survey prevented this being done.

The memory factor and its significance as a source of error was under constant consideration throughout the life of the Survey of Sickness(1.) People forgot having been ill; or if they remembered having been ill they forgot precisely when they were ill and for how long; and the further back the period of enquiry the greater the loss of accuracy in what could be remembered. Serious illnesses were less readily forgotten or misplaced in time than trivial illnesses, and chronic or recurrent illnesses were remembered more often than temporary ones. Possibly the elderly tended to forget details that younger people might have remembered; and possibly people of some socio-economic groups tended to dismiss from their mind, as commonplace, departures from health that other people might remember and report. The use of a prompt list of common illnesses no doubt had certain peculiar effects, and, as is mentioned on page 23, even an experimental alteration in the order of the questions at interview apparently influenced the extent to which people could remember and report their illnesses.

The errors introduced into the Survey of Sickness results because of its necessary reliance upon human memory must have been considerable. But it is unlikely they were large enough to produce an unreal picture of disease prevalence, incapacity, and medical consultations. Such independent checks as

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[1] *Gray, P. (1955). The Memory Factor in Social Surveys. Journal of American Statstical Association, June, 1955. Vol. 50.*

have been possible to apply, e.g. comparison with medical consultation rates based on doctors' records, suggest that on the whole the distortions are not serious and that the inaccuracies of memory, numerous though they no doubt were, did not by themselves render the Survey method grossly unreliable, nor distort drastically its principal statistical results.

A number of other features of the methodology of the Survey of Sickness call for comment.

1. SAMPLING

The number of persons interviewed each month represented approximately one person per thousand population. This sample was drawn with very great care, and there is no reason to believe that it failed to represent in a general way the adult population of this country. The age groups involved in National Service were no doubt under represented and so too were the chronic sick in institutions. A major deficiency was that children were not included, though plans to bring them in were being made just before the survey came to an end.

2. THE INTERVIEW

The interviews were conducted by the field staff of the Social Survey and this part of the Survey of Sickness was carried out with skill and tact. Refusals to co-operate on the part of selected subjects were negligible. Mention has already been made that an experimental change in the order of questions led to considerable differences in results, and it is possible that minor differences between one interviewer and another, both in the way they posed their questions and in the way they recorded the answers, may have introduced artificial differences. Evidence of interviewer bias was in fact found (Gray, 1956)(1) but was not regarded as a major source of error.

3. STATISTICAL PROCESSING

The coding and tabulation of the more factual information recorded on the schedules was relatively straightforward, but, as always, diagnostic coding was a more intricate matter. The coders had to assign the various ailments, often recorded in " non-medical " phraseology, to appropriate rubrics of the M.R.C. Provisional Morbidity Classification or, from 1949 onwards, the International Statistical Classification, neither of which had been particularly designed for the statistical coding of diagnoses obtained from non-medical sources. The result has been to endow the diagnostic tables that have emerged from the Survey with a greater appearance of " medical " precision than is wholly justified. At the same time the high proportion of diagnoses that were actually assigned to vague or symptomatic rubrics within the classification indicates that there was no special tendency on the part of coders to avoid assignment to indefinite categories.

4. PRESENTATION OF RESULTS

Both the so-called sickness rate and prevalence rate that came to be two of the principal measurements used in the published tables were very heavily weighted with minor and trivial illnesses of a kind that almost everyone would admit to suffering from from time to time. Thus both of these measurements tended to be

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[1] *Gray, P. (1956). Examples of Interviewer Variability taken from two Sample Surveys. Applied Statistics. Vol. V. No. 2. June, 1956.*

rather more stable and inert than is desirable in an index of sickness prevalence, particularly in the study of time trends. As an illustration of this inertia may be quoted the sickness rate which attained a level only of 75 per cent during the wide-spread influenza epidemic in the first quarter of 1951 compared with 71 per cent during the epidemic-free corresponding quarter of the previous year.

The incapacity rate suffered from a lack of clarity in its significance owing to the dual definitions of incapacity to be applied to persons at work and not at work, and a further minor difficulty in interpreting the figures was that persons permanently incapacitated made no contribution towards the incapacity rate, interest originally having been taken chiefly in changing amounts of incapacity in the population normally at work. Even the medical consultation rate suffered from a lack of precision, *inter alia* because of difficulties over consultations in hospital, but errors here were relatively unimportant.

Finally, a special kind of limitation to which the Survey of Sickness was subject under wartime conditions arose from the fact that some of its methods had to be designed to fit the already established Social Survey and General Register Office machinery, both in the field and in the statistical office, rather than being designed solely for the purpose of a health survey. This limitation was one which could be very readily accepted, since without the availability of the field organisation of the Social Survey the Survey of Sickness would probably never have been undertaken; and the skill and experience which the two departments were able to contribute towards the organisation of the Survey outweighed any disadvantage it suffered in not being specially designed, in all its details, for its particular purpose.

It is easy to point to defects in the methods of the Survey of Sickness, as, unfortunately, it is easy to point to defects in all present-day methods of morbidity ascertainment. Its two main defects, its use of non-medical statements and its dependence upon the memory of the persons interviewed, made it particularly liable to adverse criticism, in comparison with methods of obtaining morbidity statistics that do not suffer from these defects. But, at the time the Survey of Sickness was introduced in this country, other methods were not yet available. The limitations of the survey method were recognised; but these limitations seemed worth accepting in order to have some information about the prevalence of minor ill-health where previously no such information had existed. Whatever its defects the Survey of Sickness represented an important contribution toward the methodology of morbidity enumeration and from this point of view amply repaid the relatively modest amount of time, trouble, and expense that it entailed.

So far this discussion has been concerned with the methods of the Survey of Sickness. It is necessary now to consider its results. Allowing for its limitations of method what contribution did the Survey of Sickness make, during its existence, to statistical knowledge about the prevalence and trends of ill-health, and, now that it has been discontinued for some years, what place could it usefully fill now or in the future?

The Survey of Sickness drew attention to the large amount of ill-health from which people suffer but which does not lead them to seek medical advice, or at any rate not frequently. In the previous report (*Stocks, 1949*) it was shown that out of a hundred persons complaining of some illness during an average month, 77 of them did not visit their doctor. Although stress has been placed, above, on the disadvantages of non-medical reporting, it is evident that with less than a quarter of sick persons visiting their doctor in a month, only an incomplete picture of total morbidity can be obtained solely from medical records. It was a major contribution of the Survey of Sickness to provide an indication of the volume of ill health that must go unaccounted for in a purely medical system of morbidity ascertainment, albeit much of the untreated illness was probably relatively trivial and not necessarily requiring medical care.

At any age and in any month at least 50 per cent of adults who were asked about their health complained of an illness of some kind or another. Amongst the elderly, the proportion was at least 75 per cent. Accepting again that much of this illness may have been trivial, and that people are usually able, under mild pressure, to confess to some departure from a fully satisfactory state of health, these high figures cannot be dismissed as unimportant, and represent a problem that requires investigation and a challenge that will in due course have to be met.

The Survey of Sickness presented a uniform series of sickness, prevalence, incapacity, and medical consultation rates for the adult population of this country, by sex and age, from the middle of 1946 up to the end of 1951, a period of exceptional interest in view of the introduction of the National Health Service in July 1948. That there would be some disturbance to people's habits in seeking medical advice was expected, and the Survey of Sickness duly measured these effects. At a time when the National Health Service was undergoing much public discussion and criticism, the routine figures of the Survey of Sickness provided an independent, and, it is believed, fairly accurate indication of the extent to which illness, incapacity and medical consultations underwent some change after the introduction of the new service (see Table 2, page 43).

During the several years that have followed the termination of the Survey of Sickness other sources of national morbidity statistics have been gradually developed, viz., the Hospital In-patient Enquiry; the Ministry of Pensions and National Insurance Analysis of Claims for Sickness Incapacity; and statistical studies of general practitioners' records. These, in their various ways, provide, in greater detail and with greater accuracy, much of the information that could be provided by a Survey of Sickness, both as regards the volume and distribution of medically treated illness, and about its trends in time. There seems at present, while the statistical potentialities of these other methods are still being developed, no essential role to be played by a Survey of Sickness of the 1944-51 model, concerned as it was with the broad patterns of sickness in the adult population as a whole.

In attempting to cover illness of all types and severity the Survey of Sickness was too wide in its scope. Its deficiencies were fairly easy to recognise, but in the circumstances of the times it was decided not to narrow its scope so that these deficiencies could be minimised and its special advantages fully exploited. In any future survey of sickness the effect of memory error would be reduced by shortening the period enquired about; questions yielding vague, misleading or otherwise unsatisfactory responses would be eliminated; and attention would be directed to factual questions on which the subject's answer would probably be reliable. Apart from the contributions to basic knowledge about morbidity that any venture of this type always throws up, the survey should be planned specifically to supplement information from other sources, to provide additional information that is needed and which will in fact be used. The survey method has established itself as a valuable technique in various fields, and it has its place as a method of morbidity ascertainment. It can best make its contribution, however, not as a permanent operation designed to measure the total load of ill-health, its nature, distribution and trends, but to contribute, from time to time as the need arises, particular items of information on illness and its effects that cannot be readily obtained in a routine way.

NOTES ON THE TABLES

The tables which follow have been chosen in order to give an idea of the kind of statistical information which emerged from the Survey of Sickness. The numbers of people interviewed are given and serial tables of the four main rates, sickness, prevalence, incapacity and medical consultations, by sex-age groups and in relation to occupational groups. The numbers of illnesses reported in different diagnostic groups are shown, with the numbers of days of incapacity caused. The four chief rates are also related to the income group of the families' chief wage earner.

Table 1. Number of persons contributing to the sickness experience of each month shown

The number of persons shown as contributing to the sickness experience in January 1947, for example, is the sum of those interviewed in February and March 1947. The size of the sample was increased in February 1949, thus affecting the numbers contributing to the sickness experience of December 1948 and succeeding months.

The numbers in this table form the basis of rates shown in the other tables.

Table 2. (See also Diagram I). Mean Monthly Sickness, Prevalence, Incapacity and Consultation Rates. July 1946—December 1951

(*a*) Sickness and prevalence rates show

- (i) winter maxima and summer minima;
- (ii) female rates in each age group were higher than male rates in corresponding quarters;
- (iii) rates for both sexes in each age group were low in the period July 1947 to June 1948.

(*b*) Incapacity rates show

- (i) winter maxima and summer minima corresponding to the rise and fall in sickness and prevalence rates;
- (ii) at ages 16-44, the male rate in each quarter was in excess of the female up to June 1948, and thereafter female rates were generally less than male rates during the summer months April to September but greater than male rates during the winter;
- (iii) at ages 45-64, male rates were in excess of female except in the first quarter of 1949;

(iv) at ages 65 and over there was no distinct pattern up to June 1948, but after that female rates were in excess until March 1950, and male rates were the higher from April 1950 to September 1951. The very high female rate of 344 in the fourth quarter of 1948 is especially noteworthy, the second highest being 319 in the first three months of 1947.

(c) Medical consultation rates show

- (i) winter maxima and summer minima;
- (ii) a general upward trend since 1948;
- (iii) low rates for both sexes during July 1946 to June 1947;
- (iv) at ages 16-44 and 45-64, female rates were generally in excess of male rates, but no distinct pattern at ages 65 and over is apparent.

In considering these rates, the weather must be taken into account. July 1946 to June 1947 showed a protracted period of unusually severe weather, which resulted in increased sickness and particularly in increased incapacity rates. This was followed, during July 1947 to June 1948, by exceptionally good weather both winter and summer, and there was a remarkable absence of influenza during the winter. The following year, ending June 1949, was characterised by a quite severe influenza epidemic between February and April 1949. In the early part of 1951 there was again a very heavy epidemic of influenza which is reflected in the high levels for all four rates in the first quarter of that year; this was most marked in the case of incapacity rates.

If the Survey of Sickness rates are used to assess some of the effects of the impact of the National Health Service on the use made of medical facilities, the exceptional weather of July 1947 to June 1948 must be taken into account, since a comparison of the rates with those for the succeeding twelve months suggests a rise in all four rates in the latter. The first twelve months of the new Service must be fitted into the general pattern of trends and it then becomes apparent that there was an increase in medical consultation rates among women aged 16-64 and people of 65 and over, as the summary in Table 3 shows. The introduction of the Health Service would not increase the amount of sickness in the population, though it might lead to more being remembered, but since the method of interviewing gave every encouragement to the subjects to state all their complaints, it can be taken that the increased sickness and prevalence rates in 1948-49 represented a real increase in the sickness experienced, which in turn led to raised incapacity and consultation rates. In 1949-50 the sickness, prevalence and incapacity rates for men under 65 returned to a normal level and the medical consultation rate was only one point higher than in 1946-47. The trend of the figures suggests that the increase in consultation rates among women and old people was due to their now being more ready to consult a doctor when sick than they had been prior to July 1948.

Table 4. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates by Sex and Age, 1947-1951

This table shows

- (i) the increase in rates with increasing age;
- (ii) age-group by age-group women had higher sickness and prevalence rates than did men;

(iii) women between the ages of 25 and 64 had in most years lower incapacity rates than did men of the same ages ;

(iv) in most years women had higher consultation rates than men in the corresponding age-groups;

(v) incapacity rates for men aged 65 and over were lower than for those aged 55-64; this may be due to the dual definition of incapacity used, namely days away from work for employed persons and days spent indoors for others.

Table 5. Rates for Sickness starting in the Month, distinguishing (a) Serious, moderate and mild illnesses, (b) Minor and ill-defined illnesses. July 1946 to December 1951

This table shows

(i) the rates for the two groups, serious, moderate and mild illnesses and minor and ill-defined illnesses had the same seasonal trend of winter maxima and summer minima as had the total sickness rates;

(ii) the female excess was apparent in almost every separate month for both age-group and classes of severity.

Table 6(a) Distribution per 1,000 persons interviewed according to the Numbers of Separate Illnesses and Injuries reported in the month, by Sex, each quarter, 1947, 1949, 1951

This table shows

(i) at ages 16-64 the proportion of men recording no illness or injury in the quarter varied roughly over the three years between 300 and 450, while the female proportion varied from 240 to 360; at ages 65 and over the variation was from 150 to 270 for men and from 100 to 160 for women;

(ii) larger proportions of females than males reported each number of complaints; for example, at ages 16-64, in the first quarter of 1951, 61 per 1,000 males compared with 119 per 1,000 females reported 4 or more illnesses in the month;

(iii) older people reported more illnesses in the month than young people, for example, in the second quarter of 1951 the proportion per 1,000 reporting 4 or more illnesses a month was 132 males and 218 females at ages 65 and over, compared with 42 males and 100 females aged 21-64.

Table 6(b) Distribution per 1,000 persons interviewed according to days of incapacity per month reported, by Sex, each quarter, 1947, 1949 and 1951

This table shows

(i) a clustering at 7 days, particularly in the first and last quarters of the year;

(ii) the average days of incapacity per person per month varied in the three years under review between 0·7 and 1·7 for men and 0·5 and 1·8 for women under 65; for those aged 65 and over the average varied from 0·9 to 3·0 for men and 0·7 to 3·2 for women.

Table 7. Occupational Groups. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, by Sex, 1947, 1949 and 1951

This table shows

(i) high rates of sickness, prevalence, incapacity and medical consultations among those engaged in mining and quarrying, which includes not only workers at the face but also other persons engaged in the area of the mine or quarry except managerial and clerical staffs;

(ii) among women, housewives had the highest prevalence rates;

(iii) housewives had high medical consultation rates and so also did women in the manufacturing industries; the latter also had high incapacity rates;

(iv) retired, part-time, unoccupied workers or those whose occupation was not stated, had the highest rates. This group would include not only the elderly, but also persons whose ill-health prevented them from working, and whose chronic incapacity would inflate the rates.

Table 8. Numbers of Illnesses, Days of Incapacity and Medical Consultations for Selected Diagnoses

A short list of eighteen groups of causes was compiled for producing quarterly tabulations. When the Survey began, the Medical Research Council's Provisional Classification was used for coding diagnoses, but in 1949 a change was made to the International Statistical Classification.

This table shows

(i) at ages 16-64 colds and influenza not only accounted for more days of incapacity in 1949 and 1951 than any other group of illnesses, but also made heavy demands on doctors' attention;

(ii) among men injuries accounted for much loss of capacity, 1,114 injuries causing 5,010 days away in 1949 (4·5 days per injury) and 697 injuries causing the loss of 3,520 days in 1951 (5·1 days per injury);

(iii) skin diseases were responsible for about one-fifteenth of the medical consultations recorded in 1949;

(iv) between one-eighth and one-ninth of the illnesses recorded in 1949 were in the rheumatic group.

at ages 65 and over

(i) respiratory diseases were exceeded in number of occurrence by rheumatism and by ill-defined symptoms;

(ii) in 1951 about one-sixth of all medical consultations were for diseases of heart and arteries;

(iii) diseases of skin formed only a small part of the total illness recorded by this age group.

Table 9. Mean Monthly Prevalence Rates, Average Duration days of Incapacity and Medical Consultation Rates per 10,000 persons interviewed, by Sex and Age

A short list of 100 causes, designed for use in Morbidity Surveys, was compiled and the statistics for 1950 tabulated according to this list. In this table, any cause for which one of the rates at all ages of 16 and over exceeded 100 has been included and the numbers on the left-hand side of the first column correspond to those in the complete list. For the latter, reference should be made to the Registrar General's Statistical Review, 1950-1951, Supplement on General Morbidity, Cancer and Mental Health.(¹)

Table 10. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, by Sex and Income Group of Chief Wage Earner (or Head of Household)

This table shows, in general, higher rates among those in lower income groups. A number of facts must, however, be borne in mind with regard to this table.

In the first place, the question about income group met with a high non-response rate—the proportion of subjects for whom the income group of the head of the household was not ascertained was, in 1951, about 12 per cent of all men and 21 per cent of women. Secondly, a person may be in a low income group at the time of interview because he is ill and dependent on sickness benefit. Professional people, farmers and shop-keepers formed a considerable proportion of those whose income was not ascertained. So far as health is concerned, the number in family should be taken into account and also the total income available for housing and the purchase of food and clothing.

The original grouping covered the following ranges:—(1) under £3; (2) £3 but under £4; (3) £4 but under £5 10s.; (4) £5 10s. but under £10; (5) £10 and over; (6) not ascertained.

For interviews from October 1949 to May 1950, the grouping was:—(1) up to £3; (2) over £3 and up to £5; (3) over £5 and up to £7 10s.; (4) over £7 10s. and up to £10; (5) over £10; (6) not ascertained.

From June 1950, the grouping became:—

(1) nil; (2) up to £3; (3) over £3 and up to £5; (4) over £5 and up to £7 10s.; (5) over £7 10s. and up to £10; (6) over £10 and up to £20; (7) over £20; (8) not ascertained.

In Table 10 an effort has been made to arrange groupings which cover as far as possible the same amounts of money. The alteration in the real value of money over the period 1947 to 1951, however, prevents comparability between rates in corresponding income groups for the years shown. There has also been a constant change in wage rates. It was found that the scatter over the range of an income group was not uniform. For example, when the grouping was changed in 1949, the number of persons in the new groups up to £5 was found to be considerably smaller than in the previous groups up to £5 10s., showing that an undue proportion of the former £4 to £5 10s. group were actually in the income range of £5 to £5 10s. Similarly, when the change was made from recording the income of the Chief Wage Earner to that of 'Head of Household' the number of people in the group up to £3 approximately doubled.

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[1] *The Registrar General's Statistical Review of England and Wales for the Two Years 1950-1951: Supplement on General Morbidity, Cancer and Mental Health. H.M.S.O., 1955.*

Table 11. Dental Consultations; Mean annual consultation rates, per 100 persons interviewed in 1950, by Sex and Age, according to Occupation and Income group of person interviewed

This table was produced in the course of an enquiry into variations in the use of facilities for dental treatment by different social groups.

The table shows

(i) in each occupation and income group, women consulted their dentists more than did men;

(ii) this excess was more particularly apparent in the younger age groups when personal appearance, as well as hygiene, were influencing factors;

(iii) among the occupation groups professional and managerial personnel of both sexes had high consultation rates, suggesting a higher appreciation of the value of dental treatment in the higher social classes.

STATISTICAL TABLES

Table 1. Number of Persons contributing to the sickness experience of each month shown

	Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
	Males Aged 16-64												
1947 ..	2,178	2,328	2,417	2,237	2,226	2,196	2,210	2,219	2,289	2,243	2,207	2,147	26,897
1948 ..	2,107	2,171	2,193	2,203	2,269	2,254	2,278	2,327	2,305	2,330	2,362	2,802	27,601
1949 ..	3,154	3,053	3,000	3,047	3,091	3,052	3,018	3,043	3,045	3,036	3,081	1,543*	35,163
1950 ..	1,550*	3,087	3,084	3,101	3,117	3,111	3,108	3,112	3,077	3,009	3,031	3,080†	35,467
1951† ..	3,058	3,045	3,031	3,032	3,031	3,064	3,095	1,541*	1,329*	2,689	2,742	2,710	32,367
	Males Aged 65 and over												
1947 ..	291	338	364	322	327	324	321	334	331	324	319	351	3,946
1948 ..	378	363	355	348	357	365	372	344	339	363	353	407	4,344
1949 ..	498	488	431	390	418	470	465	454	445	447	449	222*	5,177
1950 ..	218*	436	439	454	457	444	459	474	451	419	431	506	5,188
1951 ..	548	548	520	535	565	524	492	240*	222*	468	485	486	5,633
	Females Aged 16-64												
1947 ..	2,669	2,915	3,114	2,680	2,737	2,767	2,715	2,691	2,658	2,661	2,703	2,738	33,048
1948 ..	2,736	2,701	2,683	2,700	2,701	2,732	2,724	2,743	2,786	2,749	2,730	3,135	33,120
1949 ..	3,547	3,645	3,708	3,747	3,702	3,665	3,663	3,639	3,696	3,702	3,666	1,836*	42,216
1950 ..	1,828*	3,683	3,658	3,613	3,604	3,639	3,661	3,639	3,645	3,687	3,647	3,475†	41,779
1951† ..	3,410	3,435	3,472	3,484	3,512	3,506	3,449	1,725*	1,613*	3,145	3,083	3,151	36,985
	Females Aged 65 and over												
1947 ..	401	465	509	448	439	445	480	484	453	439	435	457	5,455
1948 ..	477	457	472	476	486	502	494	495	483	470	442	532	5,786
1949 ..	643	652	669	641	621	619	606	649	663	652	662	329*	7,406
1950 ..	339*	654	663	648	625	648	639	637	657	673	637	643	7,463
1951 ..	712	720	722	746	730	718	737	374*	321*	652	682	709	7,823

* One month's sample only.

† Persons aged under 21 excluded from interviews in February and onwards.

Table 2. Mean Monthly Sickness, Prevalence, Incapacity and Consultation Rates, by Sex, Age, and Quarter, per 100 persons interviewed; July 1946 to December 1951

* Persons aged under 21 were excluded from interviews in February 1951 and onwards.

Year and Quarter	Ages 16–44*		Ages 45–64		Ages 65 and over		All Ages 16 and over	
	Males	Females	Males	Females	Males	Females	Males	Females
SICKNESS RATES								
1946 July–September ..	54	64	65	80	76	85	60	72
October–December ..	61	71	72	81	81	88	67	76
1947 January–March ..	60	68	68	78	79	86	65	73
April–June	52	61	61	76	76	86	58	69
July–September ..	51	59	62	74	73	84	57	67
October–December ..	59	69	67	78	79	88	64	74
1948 January–March ..	55	65	67	75	79	85	62	71
April–June	52	62	61	74	73	83	58	69
July–September ..	51	62	62	76	75	84	58	70
October–December ..	60	70	70	81	79	88	66	76
1949 January–March ..	62	73	70	81	82	89	67	78
April–June	56	67	66	79	78	87	62	73
July–September ..	51	63	64	76	74	85	58	71
October–December ..	61	70	68	80	76	87	65	76
1950 January–March ..	60	69	70	79	79	88	66	75
April–June	55	66	66	77	80	88	62	73
July–September ..	55	65	65	76	78	88	61	72
October–December ..	61	71	69	78	79	89	66	76
1951 January–March ..	64	72	74	80	85	90	71	78
April–June	57	64	65	76	78	88	63	72
July–September ..	55	64	64	75	78	85	61	71
October–December ..	62	69	69	76	82	87	67	75
PREVALENCE RATES								
1946 July–September ..	97	132	128	192	162	221	115	63
October–December ..	111	153	153	197	186	238	134	178
1947 January–March ..	104	139	138	187	173	227	124	165
April–June	87	127	119	176	158	209	106	153
July–September ..	86	122	114	173	147	212	103	150
October–December ..	105	145	131	192	175	231	122	171
1948 January–March ..	97	137	132	179	175	219	119	162
April–June	91	130	115	175	164	212	109	156
July–September ..	91	125	120	184	155	214	109	157
October–December ..	107	148	140	200	177	234	126	176
1949 January–March ..	115	162	144	208	189	244	134	188
April–June	100	142	133	195	172	225	119	170
July–September ..	87	124	120	178	158	212	106	154
October–December ..	105	145	134	191	173	224	123	171
1950 January–March ..	105	142	138	194	184	232	125	172
April–June	94	136	131	179	186	234	117	164
July–September ..	95	129	125	176	173	225	115	158
October–December ..	106	145	135	182	173	228	124	170
1951 January–March ..	112	149	149	192	197	241	138	179
April–June	96	128	122	175	176	231	116	161
July–September ..	93	126	121	170	180	220	115	157
October–December ..	108	143	130	174	188	227	127	168

Table 2 (*continued*)

Year and Quarter	Ages 16–44*		Ages 45–64		Ages 65 and over		All Ages 16 and over	
	Males	Females	Males	Females	Males	Females	Males	Females
INCAPACITY RATES								
1946 July–September	64	57	107	71	120	67	**85**	**62**
October–December	97	77	141	102	132	122	**116**	**91**
1947 January–March	112	110	202	188	209	319	**154**	**162**
April–June	76	61	102	87	147	122	**93**	**77**
July–September	63	48	73	66	92	103	**70**	**61**
October–December	84	77	120	98	165	163	**106**	**95**
1948 January–March	87	71	148	111	203	235	**123**	**107**
April–June	68	61	116	65	128	136	**91**	**74**
July–September	54	61	123	79	102	184	**81**	**85**
October–December	74	83	145	144	183	344	**111**	**139**
1949 January–March	99	105	154	165	200	220	**130**	**141**
April–June	72	61	107	100	151	165	**92**	**87**
July–September	63	68	112	76	89	99	**82**	**75**
October–December	73	80	135	133	223	296	**112**	**130**
1950 January–March	78	96	172	143	195	229	**122**	**131**
April–June	75	68	113	86	143	133	**95**	**83**
July–September	63	52	103	76	118	87	**83**	**65**
October–December	78	90	128	104	182	176	**108**	**108**
1951 January–March	118	151	223	207	295	271	**182**	**191**
April–June	64	60	116	77	126	112	**91**	**73**
July–September	63	47	105	70	86	70	**81**	**59**
October–December	83	84	122	101	122	143	**102**	**100**
MEDICAL CONSULTATION RATES								
1946 July–September	27	33	35	49	54	58	**33**	**42**
October–December	35	39	49	47	60	61	**43**	**44**
1947 January–March	35	35	59	53	65	80	**47**	**47**
April–June	28	33	40	45	57	60	**36**	**41**
July–September	29	30	36	42	53	47	**34**	**36**
October–December	31	37	43	49	47	63	**37**	**44**
1948 January–March	33	34	49	52	75	63	**44**	**44**
April–June	30	32	41	45	62	55	**38**	**40**
July–September	27	32	37	49	48	63	**33**	**42**
October–December	32	39	49	59	61	77	**41**	**50**
1949 January–March	36	45	54	65	73	77	**47**	**56**
April–June	32	37	42	54	72	60	**40**	**45**
July–September	31	38	41	53	57	60	**37**	**46**
October–December	33	37	45	59	66	66	**42**	**48**
1950 January–March	33	45	64	64	87	74	**49**	**55**
April–June	32	40	48	54	80	74	**43**	**49**
July–September	30	35	44	49	71	64	**40**	**44**
October–December	32	41	47	55	68	68	**41**	**50**
1951 January–March	42	48	70	60	86	83	**58**	**58**
April–June	30	39	49	52	71	69	**42**	**48**
July–September	29	37	45	45	64	58	**39**	**43**
October–December	32	41	46	46	59	70	**41**	**48**

Table 3. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, July-June, 1946-47, 1947-48, 1948-49, and 1949-50

	Ages 16–64		Ages 65 and over		All Ages 16 and over
	Males	Females	Males	Females	Persons
SICKNESS RATES					
1946–47	60	70	78	86	68
1947–48	58	68	76	85	66
1948–49	61	72	79	87	69
1949–50	60	71	77	87	68
PREVALENCE RATES					
1946–47	113	155	170	224	145
1947–48	105	150	166	218	139
1948–49	115	164	175	230	151
1949–50	109	154	175	225	143
INCAPACITY RATES					
1946–47	107	89	153	157	110
1947–48	89	72	148	159	90
1948–49	96	94	162	223	110
1949–50	93	88	158	184	102
MEDICAL CONSULTATION RATES					
1946–47	37	40	59	65	42
1947–48	35	38	60	57	40
1948–49	37	45	65	69	45
1949–50	38	46	72	68	46

Table 4. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates by Sex and Age, per 100 persons interviewed, 1947-1951

	MALES								FEMALES							
	16–*	25–	35–	45–	55–	65–	75 and over	All Ages 16 & over	16–*	25–	35–	45–	55–	65–	75 and over	All Ages 16 & over
SICKNESS RATES																
1947	50	55	58	63	67	75	81	61	58	63	70	75	78	84	89	71
1948	48	56	57	63	68	74	82	61	57	65	69	75	79	84	88	71
1949	50	58	61	65	70	76	83	63	62	68	72	77	81	86	89	74
1950	50	58	62	65	71	76	85	63	63	66	71	76	80	86	92	74
1951	53	60	63	66	72	79	85	67	62	67	71	75	80	86	91	75
PREVALENCE RATES																
1947	80	96	102	121	132	156	181	114	109	129	155	179	186	214	231	160
1948	80	98	104	119	137	159	189	116	109	135	153	177	194	214	233	163
1949	84	102	112	126	143	164	194	121	120	142	160	184	203	221	237	171
1950	78	98	112	124	143	168	202	120	118	134	155	176	191	218	253	166
1951	82	104	112	123	146	175	210	127	118	133	150	170	189	220	251	170
INCAPACITY RATES																
1947	81	78	90	120	132	144	180	106	84	68	74	107	116	164	203	100
1948	64	70	75	116	156	136	200	102	66	69	72	84	120	192	291	102
1949	65	78	83	106	156	163	164	104	86	74	78	108	129	168	238	107
1950	69	69	79	102	161	157	158	101	67	74	82	92	111	134	192	95
1951	85	87	80	121	186	167	167	119	84	81	95	107	134	152	165	111
MEDICAL CONSULTATION RATES																
1947	29	32	31	42	49	53	61	39	33	33	35	47	48	56	76	42
1948	25	31	33	41	49	58	71	39	30	35	36	51	52	58	79	44
1949	28	33	36	42	50	65	74	41	36	38	42	54	62	62	72	49
1950	27	31	35	41	63	73	81	43	33	39	45	52	60	64	81	49
1951	29	33	36	45	67	64	89	47	40	40	44	48	56	64	84	51

*Ages 21 and over in 1951.

Table 5. Rates for Sickness starting in the month, per 100 persons interviewed, distinguishing (a) Serious, moderate and mild illnesses, (b) Minor and ill-defined illnesses. July 1946—December 1951

Month and Year of Experience		Serious, Moderate, Mild				Minor, Ill-defined			
		Ages 16–64		65 and over		Ages 16–64		65 and over	
		Male	Female	Male	Female	Male	Female	Male	Female
1946	July(1)	3·7	3·6	3·2	6·3	24·4	32·6	25·5	32·1
	August(1)	3·7	4·1	3·5	4·7	23·9	31·7	25·7	30·2
	September(1)	4·2	3·3	3·0	5·0	24·9	34·3	25·9	30·1
	October	3·5	5·1	3·5	6·5	32·4	37·9	28·8	32·8
	November	5·3	4·8	5·8	4·8	30·9	39·0	28·2	30·4
	December	5·6	6·2	7·4	10·2	34·9	41·0	32·1	29·4
1947	January	7·9	8·2	7·6	11·2	32·2	39·5	29·6	28·4
	February	6·1	6·2	6·8	11·6	33·4	37·5	26·9	28·8
	March	5·1	4·9	5·2	9·4	27·0	32·9	23·1	26·3
	April	3·6	4·2	4·0	6·0	23·0	30·6	25·6	26·4
	May	3·3	3·8	4·9	6·6	24·9	33·0	21·4	27·3
	June	2·6	3·4	3·4	7·4	23·3	30·4	22·5	31·5
	July	3·5	3·4	2·5	3·5	21·8	28·8	22·7	30·2
	August	2·7	3·0	2·4	4·1	21·8	28·5	24·6	27·5
	September	3·1	4·2	2·1	5·7	26·9	34·2	29·9	29·1
	October	3·6	4·2	6·2	8·7	33·1	41·8	36·1	37·4
	November	4·9	5·5	2·2	9·2	35·8	43·2	38·9	40·5
	December	4·0	5·2	6·3	11·2	35·7	42·1	29·3	39·4
1948	January	3·9	4·9	5·8	9·6	31·6	38·2	27·8	34·0
	February	3·2	4·9	5·8	8·0	31·5	39·2	33·1	30·4
	March	4·2	4·1	5·4	7·0	28·1	37·3	31·5	29·0
	April	3·4	4·0	4·0	6·5	26·4	34·0	28·7	30·5
	May	3·5	3·6	2·5	4·1	27·0	34·7	25·8	30·0
	June	3·7	3·8	4·4	5·8	26·7	33·6	24·9	29·1
	July	3·2	4·0	3·8	6·3	26·3	35·3	25·5	31·0
	August	4·1	4·1	1·7	7·3	24·3	34·6	27·0	28·1
	September	4·1	4·8	2·9	6·2	28·9	36·5	31·6	29·8
	October	4·1	5·1	3·6	8·1	32·3	41·0	32·5	35·1
	November	5·1	5·0	7·1	13·1	37·8	43·7	35·1	36·2
	December	4·7	6·0	5·2	10·2	38·1	44·7	35·9	36·8

Table 5 (*continued*)

Month and Year of Experience		Serious, Moderate, Mild				Minor, Ill-defined			
		Ages 16–64		65 and over		Ages 16–64		65 and over	
		Male	Female	Male	Female	Male	Female	Male	Female
1949	January	5.2	5·8	7·6	9·6	35·2	42·2	31·9	38·1
	February	6·5	7·9	6·8	10·9	37·0	41·8	31·6	38·5
	March	5·9	7·7	7·9	11·7	35·3	42·0	34·3	33·0
	April	3·5	4·7	6·2	6·4	30·0	40·0	30·3	33·4
	May	3·5	3·8	2·9	3·9	29·4	38·8	28·7	30·3
	June	2·6	3·6	3·0	6·3	26·3	35·5	24·9	29·9
	July	2·7	3·9	3·7	6·9	25·6	33·7	26·2	28·5
	August	2·7	3·7	4·4	4·0	24·9	32·9	27·8	29·1
	September	3·1	4·2	2·7	4·8	28·0	35·7	31·5	32·3
	October	3·7	5·8	5·6	6·3	35·3	42·4	33·1	35·6
	November	4·9	5·3	8·5	9·7	38·3	45·1	32·7	34·1
	December(2)	4·5	6·6	5·4	9·7	42·3	47·9	32·4	42·2
1950	January(2)	3·7	5·8	9·6	8·0	35·5	42·0	28·0	37·2
	February	6·0	8·0	9·2	9·2	36·5	43·0	31·4	37·0
	March	6·1	8·1	8·4	11·3	32·6	42·0	29·4	33·8
	April	5·4	5·6	5·5	10·6	33·3	38·8	33·7	34·4
	May	4·6	4·9	5·5	6·6	31·8	40·4	29·8	37·8
	June	3·2	4·1	3·6	5·7	28·3	38·8	27·9	34·9
	July	3·3	4·5	6·1	6·6	30·5	37·6	27·0	37·6
	August	3·2	4·3	4·6	5·7	29·7	38·9	26·2	36·9
	September	4·3	4·8	5·5	7·0	34·1	41·3	31·0	35·0
	October	5·5	7·0	8·6	10·0	38·3	43·8	32·5	37·1
	November	6·6	7·6	9·7	10·7	36·0	43·8	32·9	36·7
	December	9·5	10·9	12·1	17·0	37·0	42·8	29·8	35·8
1951*	January	15·6	19·5	18·2	27·2	38·0	39·6	31·2	31·9
	February	10·4	12·5	13·5	16·2	35·2	40·8	31·6	33·0
	March	7·1	8·8	11·3	13·2	36·9	42·4	32·3	34·0
	April	4·8	6·1	8·4	10·9	34·0	40·6	29·7	32·3
	May	4·6	5·4	6·5	8·9	30·9	39·9	33·8	34·9
	June	3·9	4·6	5·0	8·5	32·0	39·0	34·4	36·2
	July	3·7	4·7	5·7	7·3	31·4	39·4	33·5	35·1
	August(2)	4·3	4·1	5·0	8·0	32·6	41·9	31·7	38·0
	September(2)	5·5	6·7	4·5	12·1	27·2	34·6	23·4	33·3
	October	8·5	10·9	9·8	13·5	33·2	37·4	29·1	33·7
	November	8·5	8·6	11·3	13·5	31·0	38·7	32·8	32·0
	December	10·6	13·1	13·0	15·5	35·1	39·7	33·3	35·7

*Ages 21-64, instead of 16-64 in previous years.

[1] Based on three months' experience preceding interview for serious, moderate and mild illness.

[2] Uncorrected rates based on one month's experience.

Table 6(a). Distribution per 1,000 of persons interviewed according to the Numbers of separate Illnesses and Injuries reported in the month, by Sex, each quarter, 1947, 1949 and 1951

NO. OF ILLNESSES AND INJURIES REPORTED PER MONTH		1947								1949								1951							
		1st Qtr		2nd Qtr.		3rd Qtr.		4th Qtr.		1st Qtr.		2nd Qtr.		3rd Qtr.		4th Qtr.		1st Qtr.		2nd Qtr.		3rd Qtr.		4th Qtr.	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ages 16–64*	0	369	287	447	339	453	361	378	281	349	242	408	287	445	320	368	264	308	238	392	302	403	309	349	276
	1	313	277	294	264	298	267	321	281	313	276	302	276	293	287	319	294	334	289	324	284	317	289	337	292
	2	183	207	150	184	143	176	164	195	182	205	156	194	161	188	181	205	200	218	163	197	163	192	178	202
	3	83	121	65	109	64	95	82	123	90	136	75	121	58	114	78	117	97	136	79	117	72	112	84	122
	4	32	61	28	60	26	50	33	62	38	70	36	64	26	49	35	67	40	64	27	58	26	55	32	58
	5	12	29	12	27	11	28	15	34	19	42	14	33	11	26	13	31	15	33	10	25	12	28	14	30
	6	5	12	3	12	4	16	5	17	6	18	6	16	5	10	4	15	5	16	4	12	5	9	4	13
	7	2	4	0	3	0	5	2	4	2	7	3	6	1	4	1	5	1	4	1	3	2	4	1	4
	8 and over	1	2	1	2	1	2	0	3	1	4	0	3	0	2	1	2	0	2	0	2	0	2	1	3
Total		1,000	1,000	1,000	1.000	1,000	1.000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total No. of Persons		6,923	8,698	6,659	8,184	6,718	8,064	6,597	8,102	9,207	10,900	9,190	11,114	9,106	10,998	7,660	9,204	9,134	10,317	9,127	10,502	5,965	6,787	8,141	9,379
Ages 65 and over	0	212	141	238	141	270	162	209	125	181	108	221	134	255	149	238	133	151	100	221	122	218	147	181	125
	1	301	249	309	269	318	252	291	236	296	234	299	263	323	260	281	247	276	225	284	227	284	255	290	250
	2	232	222	246	253	233	227	253	239	234	232	228	222	199	241	218	240	255	229	230	253	218	237	229	240
	3	131	155	115	155	89	165	124	177	135	179	118	168	110	173	133	164	174	213	133	180	142	150	159	183
	4	78	119	49	102	58	107	69	116	82	123	81	108	67	88	75	120	94	127	71	118	81	105	85	97
	5	22	66	28	46	15	49	32	59	44	66	33	56	21	46	29	57	30	65	39	61	28	59	31	53
	6	18	32	12	25	12	26	13	31	19	35	17	30	18	30	19	25	12	30	15	25	18	34	15	34
	7	4	12	3	7	3	8	6	10	6	14	2	9	7	9	5	9	3	6	5	7	7	7	6	10
	8 and over	2	4	—	2	2	4	3	7	3	9	1	10	—	4	2	5	5	5	2	7	4	6	4	8
Total		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1.000	1,000	1,000	1,000	1,000
Total No. of Persons		993	1,375	973	1,332	986	1,417	994	1,331	1,417	1,964	1,278	1,881	1,364	1,918	1,118	1,643	1,616	2,154	1,624	2,194	954	1,432	1,439	2,043

* 21–64 in 1951

Table 6(b). Distribution per 1,000 Persons interviewed according to the Days of Incapacity per month reported, by Sex, each quarter, 1947, 1949 and 1951

DAYS OF INCAPACITY PER MONTH	1947								1949								1951							
	1st Qtr		2nd Qtr.		3rd Qtr.		4th Qtr.		1st Qtr.		2nd Qtr.		3rd Qtr.		4th Qtr.		1st Qtr.		2nd Qtr.		3rd Qtr.		4th Qtr.	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ages 16–64* 0	870	880	930	932	937	942	907	907	884	875	931	927	938	935	907	894	836	818	928	930	938	940	905	896
1	8	6	6	7	8	8	9	7	14	9	6	9	6	7	13	12	13	12	7	9	8	6	11	12
2	14	11	9	10	8	8	13	15	15	15	8	8	6	8	13	15	18	18	7	9	6	9	14	15
3	11	10	4	5	7	7	10	10	10	10	5	7	4	6	7	9	16	17	4	7	4	6	9	14
4	8	8	4	4	2	3	5	6	6	10	3	4	3	5	5	7	10	12	4	5	3	3	5	7
5	4	4	3	3	2	2	3	4	4	5	3	3	2	1	3	4	8	8	3	2	2	3	3	4
6	3	4	2	3	1	2	2	4	2	4	2	2	1	2	2	2	4	6	2	2	1	2	3	2
7	21	19	9	8	9	7	12	13	16	20	8	9	8	7	10	17	20	30	8	9	7	8	9	16
8	3	3	1	0	0	0	2	2	2	3	1	1	1	1	2	2	4	5	1	2	1	1	2	2
9	2	2	1	1	1	1	1	2	1	2	1	1	1	1	2	2	4	4	1	0	1	1	1	1
10	5	7	2	2	2	1	4	4	4	5	2	3	1	3	4	4	8	9	3	3	2	1	3	2
11–	21	16	10	10	9	9	12	11	17	18	11	11	10	9	12	14	28	34	13	9	8	9	14	13
18–	10	13	6	6	5	4	7	7	10	11	5	6	5	5	7	5	14	12	6	5	7	4	7	6
25 and over	20	17	13	9	9	6	13	8	15	13	14	9	14	10	13	13	17	15	13	8	12	7	14	10
Total	1,000	1,000	1,000	1,000	1.000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total People	6,923	8,698	6,659	8,184	6,718	8,064	6,597	8,102	9,207	10,900	9,190	11,114	9,106	10,998	7,660	9,204	9,134	10,317	9,127	10,502	5,965	6.787	8.141	9,379
Total days	10,101	11,919	5,699	5,727	4,471	4,364	6,382	6,839	10,975	13,791	7,724	8,261	7,355	7,781	7,336	9,192	15,232	18,256	7,867	7,134	4,693	3,891	8.088	8.428
Average days /person / month	1·5	1·4	0·9	0·7	0·7	0·5	1·0	0·8	1·2	1·3	0·8	0·7	0·8	0·7	1·0	1·0	1·7	1·8	0·9	0·7	0·8	0·6	1·0	0·9
Ages 65 and over 0	873	823	912	914	928	931	890	887	852	853	911	912	946	936	873	856	794	812	914	916	942	946	896	892
1	3	4	2	3	8	2	3	5	7	4	2	1	—	5	4	2	7	5	4	6	—	5	6	3
2	7	4	4	6	2	6	11	10	11	7	7	3	4	3	7	4	13	8	7	4	5	4	15	12
3	6	7	9	7	6	3	8	5	8	5	4	4	4	5	4	6	12	12	4	8	6	2	7	9
4	6	3	6	8	6	7	7	10	8	9	2	4	4	4	5	5	8	10	4	4	—	3	7	6
5	3	2	6	2	3	2	2	9	4	6	1	1	—	1	3	4	7	7	1	1	3	2	3	2
6	1	5	2	3	2	1	3	3	1	3	—	1	1	1	—	2	6	5	1	2	1	3	3	4
7	20	18	9	8	5	6	17	8	27	15	12	8	4	7	11	14	28	30	15	12	10	5	11	13
8	4	2	—	1	1	2	2	2	2	2	2	2	—	1	4	3	6	2	4	1	3	1	2	3
9	1	3	—	1	2	2	—	1	2	2	1	1	1	1	1	2	2	2	—	1	—	1	2	2
10	6	9	3	5	—	2	7	4	9	11	5	4	3	2	9	4	6	8	4	5	3	2	4	2
11–	19	30	5	10	17	13	13	12	22	29	11	14	9	9	20	13	38	36	10	14	7	9	18	16
18–	11	20	8	10	7	1	11	15	17	19	9	6	6	5	10	8	24	17	7	8	3	6	13	14
25 and over	40	70	34	22	13	22	26	29	30	35	33	39	18	20	49	77	49	46	25	18	17	11	13	22
Total	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
Total people	993	1,375	973	1,332	986	1,417	994	1,331	1,417	1,964	1,278	1,881	1,364	1,918	1,118	1,643	1,616	2,154	1,624	2,194	954	1,432	1,439	2,043
Total days	2,071	4,387	1,435	1,622	905	1,461	1,642	2,164	2,837	4,316	1,929	3,109	1,213	1,899	2,492	4,871	4,775	5,840	2,045	2,455	825	1,008	1,761	2,929
Average days /person / month	2·1	3·2	1·5	1·2	0·9	1·0	1·7	1·6	2·0	2·2	1·5	1·7	0·9	1·0	2·2	3·0	3·0	2·7	1·3	1·1	0·9	0·7	1·2	1·4

*21–64 in 1951

Table 7. Occupational Groups. Mean Monthly Sickness, Prevalence, Incapacity and Medical Consultation Rates per 100 persons interviewed, by Sex, 1947, 1949 and 1951

OCCUPATIONAL GROUPS		MALES				FEMALES			
		Sickness	Prevalence	Incapacity	Medical Consultations	Sickness	Prevalence	Incapacity	Medical Consultations
Professional and Managerial	1947	58	101	56	29	59	118	85	38
	1949	59	105	58	31	60	117	85	37
	1951	63	110	79	36	65	122	78	37
Clerical	1947	56	98	80	31	58	115	81	33
	1949	59	109	72	31	63	118	79	34
	1951	62	107	86	34	64	123	83	35
Operatives and Other Grades									
Manufacturing	1947	60	110	98	35	64	134	132	39
	1949	62	115	82	37	67	143	128	44
	1951	65	121	112	42	68	138	134	47
Transport and Public Services	1947	57	98	98	37	57	103	131	37
	1949	58	103	71	32	59	128	75	29
	1951	60	108	99	39	56	111	108	43
Mining and Quarrying	1947	69	133	182	51	57	157	629	86
	1949	68	131	198	52	73	82	—	—
	1951	68	129	215	69	76	112	229	59
Building and Roadmaking	1947	56	96	81	27	70	139	61	13
	1949	58	107	72	29	53	102	134	32
	1951	63	112	110	35	81	119	95	248

Table 7 (*continued*)

OCCUPATIONAL GROUPS		MALES				FEMALES			
		Sickness	Prevalence	Incapacity	Medical Consultations	Sickness	Prevalence	Incapacity	Medical Consultations
Agriculture	1947	53	91	80	23	46	72	24	11
	1949	56	97	64	23	64	116	58	30
	1951	63	107	98	30	49	84	30	15
Distributive	1947	58	104	72	33	65	118	101	28
	1949	58	105	54	26	63	127	57	34
	1951	63	112	79	32	67	131	85	36
Other Industries	1947	57	103	82	32	62	122	66	30
	1949	60	113	90	36	68	140	80	35
	1951	65	120	125	43	69	145	101	45
Housewives	1947	—	—	—	—	73	170	91	41
	1949	—	—	—	—	77	182	99	49
	1951	—	—	—	—	77	179	110	51
Retired, part-time, unoccupied or unstated	1947	79	173	213	73	77	190	173	66
	1949	81	188	257	92	81	202	221	78
	1951	85	201	203	90	82	206	164	79
Total	**1947**	**61**	**114**	**106**	**39**	**71**	**160**	**100**	**42**
	1949	**63**	**121**	**104**	**41**	**74**	**171**	**107**	**49**
	1951	**67**	**127**	**119**	**47**	**75**	**170**	**111**	**51**

Table 8. Numbers of Illnesses, Days of Incapacity and Medical Consultations for Selected Diagnoses, 1949, 1950 and 1951, by Sex. (a) Ages 16-64 (21-64 in 1951) (b) Ages 65 and over.

Diagnosis	1949						1950						1951					
	Illnesses		Days Away		Consultations		Illnesses		Days Away		Consultations		Illnesses		Days Away		Consultations	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
(a) Ages 16-64																		
1. Tuberculosis of lungs	166	127	906	370	295	330	137	106	765	235	208	196	107	65	362	67	122	98
2. Pyschoneuroses, mental disorders	227	341	615	876	182	313	392	681	749	858	228	499	411	576	954	567	316	433
3. Eye affections	1,825	2,811	272	351	259	400	1,658	2,386	352	217	262	445	1,417	1,971	281	308	270	378
4. Ear and mastoid	1,338	1,392	256	251	259	271	1,388	1,140	198	166	260	360	1,213	1,155	178	184	276	249
5. Rheumatism(1)	3,767	7,756	2,314	2,755	844	1,670	3,779	7,636	1,981	2,463	916	1,818	3,919	7,412	2,376	2,380	973	1,587
6. Heart and arteries	540	1,263	1,073	1,435	387	814	682	1,433	1,502	1,101	482	945	715	1,472	1,775	1,173	638	876
7. Affection of veins	740	2,084	412	1,270	148	522	765	1,937	665	783	217	467	644	1,692	522	612	215	374
8. Colds and influenza	5,641	6,859	5,096	7,439	1,299	1,613	5,281	6,062	4,805	6,755	1,350	1,588	4,731	5,261	7,607	10,551	1,832	1,807
9. Sore throat(2)	266	521	537	1,336	229	416	254	475	627	1,133	229	399	216	354	524	739	156	223
10. Other respiratory	3,923	3,924	3,908	3,572	1,398	1,281	4,743	4,908	4,416	4,448	1,624	1,585	5,409	5,102	5,242	5,558	2,009	1,837
11. Dental disorders	2.002	2,999	227	320	109	141	1,871	2,400	127	166	68	88	1,571	1,796	135	105	46	79
12. Ulcer of stomach and duodenum	685	157	1,466	164	622	118	646	200	1,635	381	719	179	631	199	1,397	386	602	250
13. Other stomach	2,968	3,733	960	794	490	565	3,155	3,619	1,095	930	643	645	2,919	3,161	828	578	543	441
14. Other digestive(3)	982	3,261	550	1,613	217	586	921	3,082	618	1,151	192	459	817	2,919	642	811	197	477
15. Diseases of skin(4)	1,544	1,583	1,756	1,013	1,099	1,007	1,675	1,666	1,366	1,292	1,089	1,038	1,567	1,275	1,726	642	1,089	769
16. Other defined illness	2,584	6,751	3,634	7,255	1,640	4,300	2,824	6,806	4,224	6,792	1,847	4,259	2,776	6,041	4,472	6,736	1,593	3,631
17. Ill-defined symptoms	9,346	21,843	4,398	6,708	1,807	4,168	8,186	19,357	2,966	4,937	1,480	3,338	8,006	17,106	3,339	4,855	1,504	2,854
18. Injuries	1,114	542	5,010	1,503	1,928	794	1,114	572	4,750	1,644	1,757	749	697	427	3,520	1,457	1,402	731
Total	39,658	67,947	33,390	39,025	13,212	19,309	39,471	64,466	32,841	35,452	13,571	19,057	37,786	57,984	35,880	37,709	13,783	17,094
(b) Ages 65 and over																		
1. Tuberculosis of lungs	6	10	—	21	—	13	12	4	61	30	8	13	10	6	25	--	15	2
2. Pyschoneuroses, mental disorders	26	51	78	30	10	33	38	81	2	35	26	66	55	111	27	162	18	71
3. Eye affections	564	1,170	47	445	115	227	531	1,069	77	203	105	174	545	1,111	99	228	80	214
4. Ear and mastoid	595	749	89	243	63	81	609	762	53	50	40	60	644	793	5	18	40	76
5. Rheumatism(1)	1,452	3,158	788	2,297	327	727	1,476	3,404	523	1,505	241	717	1,619	3,562	652	878	373	646
6. Heart and arteries	358	717	559	612	345	434	501	1,032	729	1,174	576	687	624	1,083	994	863	708	870
7. Affection of veins	187	436	228	343	57	89	174	448	200	374	65	146	179	463	250	377	61	130
8. Colds and influenza	645	970	901	1,957	205	340	573	858	1,061	1,827	281	310	645	863	1,625	2,680	262	445
9. Sore throat(2)	20	49	25	24	12	32	9	36	—	95	1	16	17	27	37	104	11	23
10. Other respiratory	891	904	1,518	1,985	451	379	1,006	1,037	1,369	2,017	626	510	1,356	1,440	2,368	2,788	680	760
11. Dental disorders	121	167	23	49	11	8	152	138	—	23	7	6	118	103	22	1	6	2
12. Ulcer of stomach and duodenum	67	60	169	63	61	39	60	67	146	66	61	46	71	45	168	140	82	25
13. Other stomach	519	1,088	207	496	104	238	653	1,134	185	154	161	294	583	1,163	132	189	112	193
14. Other digestive(3)	295	827	140	385	47	153	317	814	106	241	66	105	409	901	98	269	78	115
15. Diseases of skin(4)	192	307	217	312	117	128	230	369	303	230	170	210	275	368	262	199	186	139
16. Other defined illness	908	1,333	1,629	1,519	698	703	961	1,574	1,564	1,506	783	860	1,043	1,581	1,402	1,521	696	909
17. Ill-defined symptoms	1,996	4,535	1,385	2,914	683	1,054	1,855	4,132	1,353	1,614	571	749	2,212	4,301	958	1,455	472	777
18. Injuries	124	218	468	500	181	195	116	187	430	323	144	242	67	143	282	360	126	169
Total	8,966	16,749	8,471	14,195	3,487	4,873	9,273	17,146	8,162	11,467	3,932	5,211	10,472	18,064	9,406	12,232	4,006	5,566

[1] All forms except chronic heart affections of rheumatic origin [2] Including chronic tonsillar conditions [3] Except hernia [4] Including cellular tissue.

Table 9. Mean Monthly Prevalence Rates, Average Duration (in days) of Incapacity, and Medical Consultation Rates per 10,000 persons interviewed, according to sex and age, in a selection made from a short list of 100 causes designed for use in Morbidity Surveys, 1950. (Any cause in which any one of the rates at all ages 16 and over exceeded 100 has been selected)

NATURE OF ILLNESS AND INJURY AND I.S.C. NUMBER		PREVALENCE RATES				AVERAGE DURATION OF INCAPACITY				MEDICAL CONSULTATION RATES			
		16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over
1. Tuberculosis of respiratory system (001-008)	M	41	35	23	37	204	236	118	203	64	49	15	53
	F	29	19	5	22	81	14	40	54	63	20	17	42
12. Asthma (241)	M	63	93	131	82	108	325	561	235	49	78	132	68
	F	59	108	151	88	90	198	350	164	52	80	135	73
14. Anaemias (290-293)	M	13	19	67	22	24	34	148	43	12	27	138	33
	F	193	165	159	179	94	116	78	98	138	156	172	150
. Mental psychoneurotic and personality disorders (300-326)	M	99	131	73	106	163	296	4	185	52	86	50	62
	F	152	181	109	155	230	163	47	181	119	121	88	115
1 . Sciatica (363)	M	20	78	158	56	15	259	218	118	10	56	56	30
	F	21	43	85	37	38	41	19	36	8	16	7	11
27. 'Other' diseases of eye (380, 382-4, 386-8) (Strabismus, refractive errors, etc.)	M	275	491	640	390	12	43	12	23	34	41	91	43
	F	318	627	848	496	16	55	127	44	34	65	78	50
29. Diseases of ear and mastoid (390, 394-8) (Excludes otitis media and mastoiditis; includes deafness)	M	278	442	1,143	440	29	63	102	49	44	70	73	56
	F	164	370	1,004	356	11	17	67	21	37	84	75	57
31. Arteriosclerotic heart and coronary disease (420)	M	—	35	85	22	—	187	374	107	—	67	125	37
	F	3	27	40	16	3	61	197	51	6	18	66	19
34. Hypertensive disease (440-47)	M	12	118	258	77	45	121	104	76	9	61	169	46
	F	46	284	552	198	66	142	304	126	35	185	301	123
36. Varicose veins, legs (460)	M	112	165	206	141	72	107	172	96	20	38	54	30
	F	301	449	474	374	33	154	229	101	30	123	125	75

Table 9. (*continued*)

NATURE OF ILLNESS AND INJURY AND I.S.C. NUMBER		PREVALENCE RATES				AVERAGE DURATION OF INCAPACITY				MEDICAL CONSULTATION RATES			
		16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over
40. Common cold (470)	M	1,411	1,114	933	1,256	344	334	544	366	124	112	230	134
	F	1,393	977	961	1,196	519	488	906	568	165	133	145	152
41. Other acute upper respiratory infections (471-75)	M	93	55	25	72	274	57	—	171	93	41	4	65
	F	160	62	56	114	396	185	182	297	133	66	46	98
42. Influenza (480-83)	M	183	189	171	183	856	1,297	1,502	1,076	221	330	312	267
	F	207	221	189	209	1,058	1,196	1,542	1,175	226	231	271	233
43. Pneumonia (490-93)	M	6	10	21	9	103	150	260	138	22	63	79	42
	F	3	5	4	4	26	76	8	39	8	60	21	26
44. Bronchitis (500-502)	M	193	650	892	426	267	1,690	2,160	956	81	543	955	337
	F	236	406	852	383	483	1,025	2,204	915	140	275	536	243
46. Chronic pharyngitis and nasopharyngitis, quinsy (511, 512)	M	768	906	865	824	48	18	62	40	39	34	27	36
	F	774	707	429	700	57	14	71	45	42	37	35	39
48. Pleurisy, empyema and lung abscess (518, 519, 521)	M	7	14	12	10	62	106	87	79	10	56	15	25
	F	9	12	10	10	113	98	200	121	37	27	29	33
50. Diseases of teeth and supporting structures (530-35)	M	606	388	293	498	44	22	—	31	27	5	13	18
	F	715	337	185	515	40	39	31	38	23	18	8	19
51. Ulcer of stomach (540)	M	49	116	71	73	156	300	168	203	55	166	73	92
	F	17	47	68	34	36	47	70	44	17	37	55	30
52. Ulcer of duodenum (541)	M	82	156	45	101	208	334	114	235	92	137	44	100
	F	13	32	22	20	19	105	19	47	8	35	7	16
53. Other disorders of stomach and duodenum (542-45) (Includes indigestion and gastro-intestinal disturbances)	M	809	1,033	1,259	937	269	381	357	315	151	233	310	198
	F	724	1,107	1,519	965	168	315	206	220	140	179	394	191

Table 9. (*continued*)

NATURE OF ILLNESS AND INJURY AND I.S.C. NUMBER		PREVALENCE RATES				AVERAGE DURATION OF INCAPACITY				MEDICAL CONSULTATION RATES			
		16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over
55. Hernia and intestinal obstruction (560. 561, 570)	M	44	126	318	105	82	242	143	140	19	69	118	46
	F	13	39	51	27	64	32	—	44	11	16	3	11
57. Constipation and functional disorders of intestines (573)	M	201	259	543	264	28	9	35	23	13	9	121	26
	F	654	688	973	713	19	53	—	27	24	32	39	29
62. Diseases of urinary system other than nephritis and calculi (600, 601, 603, 605-9)	M	34	86	231	76	44	175	484	141	28	106	229	77
	F	76	158	176	117	48	158	181	103	45	90	71	63
67. Disorders of menstruation and menopause (634, 635)	F	354	264	7	273	147	127	—	118	113	88	—	88
68. 'Other' diseases of female genitals (622, 626, 630, 632-33, 636-37)	F	81	75	66	77	149	137	127	142	73	84	103	81
70. Boils and carbuncles (690)	M	97	66	21	78	122	142	98	125	122	70	79	100
	F	37	25	3	28	65	22	—	42	39	42	8	35
71. Cellulitis and lymphangitis (691-694)	M	30	27	37	30	115	115	133	118	89	69	71	80
	F	34	29	44	34	98	65	123	92	68	39	111	66
73. 'Other' diseases of skin and subcutaneous tissue (includes eczema, dermatitis, psoriasis, corns, acne, etc.) (700-716)	M	349	311	379	341	89	155	353	144	110	90	177	113
	F	313	326	438	336	72	294	185	159	132	154	162	143
74. Arthritis not elsewhere classified (720-725)	M	63	155	333	126	50	237	233	132	33	103	164	72
	F	59	356	895	279	71	251	789	237	64	299	468	199
75. Muscular and unspecified rheumatism (726,727)	M	636	1,553	2,502	1,163	299	683	774	481	143	295	301	210
	F	1,014	2,726	3,641	1,950	320	649	1,227	560	177	452	472	308
85. Symptoms referable to nervous system and special senses (780, 781)	M	74	125	324	122	52	96	85	70	33	28	123	43
	F	134	295	434	230	28	68	110	53	34	57	88	50

Table 9. (*continued*)

NATURE OF ILLNESS AND INJURY AND I.S.C. NUMBER		PREVALENCE RATES				AVERAGE DURATION OF INCAPACITY				MEDICAL CONSULTATION RATES			
		16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over	16–44	45–64	65 and over	All Ages 16 and over
86. Symptoms referable to cardio-vascular and lymphatic system (782)	M	41	93	203	**78**	34	38	204	**57**	26	63	77	**44**
	F	124	262	448	**216**	64	78	174	**85**	41	37	107	**59**
87. Symptoms referable to respiratory system (783)	M	259	522	630	**389**	115	202	443	**184**	54	116	158	**87**
	F	229	396	571	**333**	152	98	334	**163**	72	88	151	**89**
89. Symptoms referable to abdomen and lower gastro-intestinal system (785)	M	88	111	204	**110**	51	77	120	**68**	20	23	127	**34**
	F	97	153	202	**131**	83	71	55	**75**	37	19	52	**34**
91. Symptoms referable to limbs and back (787)	M	294	460	636	**390**	73	215	357	**154**	52	91	98	**70**
	F	536	767	947	**671**	106	246	407	**196**	106	152	165	**129**
92. Nervousness and debility (790)	M	496	604	592	**542**	185	124	154	**162**	99	94	175	**108**
	F	1,370	1,683	1,435	**1,478**	301	413	707	**397**	271	300	247	**275**
93. Headache (791)	M	651	651	632	**648**	31	133	33	**63**	26	50	46	**36**
	F	1,515	1,516	1,127	**1,457**	132	151	137	**138**	100	125	64	**103**
94. Other and ill-defined symptoms and conditions (788, 789, 792-795)	M	91	77	214	**102**	155	135	1,055	**263**	39	44	233	**65**
	F	114	124	208	**131**	181	125	186	**164**	81	54	111	**77**
95. Fractures (N 800-829)	M	48	42	44	**46**	431	339	399	**398**	99	87	66	**91**
	F	11	37	80	**30**	88	198	88	**122**	21	76	137	**56**
96. Dislocations, sprains and strains (N 830-848)	M	51	45	35	**47**	263	200	58	**217**	84	73	33	**74**
	F	26	30	46	**30**	78	56	121	**78**	32	31	46	**34**
98. Lacerations and open wounds (N 870-908)	M	76	56	21	**63**	207	217	60	**191**	130	129	19	**115**
	F	22	19	20	**21**	52	64	1	**48**	33	19	27	**28**
All Causes	M	**9,955**	**13,214**	**17,874**	**11,990**	**7,326**	**12,695**	**15,732**	**10,086**	**3,163**	**5,005**	**7,579**	**4,305**
	F	**13,782**	**18,230**	**22,975**	**16,574**	**7,550**	**10,076**	**15,365**	**9,528**	**3,997**	**5,521**	**6,982**	**4,928**

Note. When several illnesses and injuries occur concurrently, sometimes only the total number of days of incapacity and of medical consultations caused by them jointly can be recorded. In such cases the whole of the incapacity and the medical consultations are allocated to or divided between the most severe of the concurrent illnesses and injuries.

Table 10. Mean Monthly Sickness, Prevalence, Incapacity and Medical Cousnltation Rates per 100 persons interviewed, by Sex and Income Group of Chief Wage Earner, 1947, 1949, and of 'Head of Household', 1951

	SICKNESS		PREVALENCE		INCAPACITY		CONSULTATIONS	
	M	F	M	F	M	F	M	F
INCOME GROUP OF CHIEF WAGE-EARNER				1947				
Under £3	79	80	184	201	200	136	68	55
£3 and under £5.10	61	70	112	156	110	95	38	38
£5.10 and under £10	57	69	102	151	85	90	34	42
£10 and over	61	67	108	140	71	108	39	49
Not known	58	70	104	152	88	92	29	44
Total	**61**	**71**	**114**	**160**	**106**	**100**	**39**	**42**
INCOME GROUP OF CHIEF WAGE-EARNER				1949				
Under £3	82	83	198	214	261	159	89	63
£3 and under £5 or £5.10.0	63	74	121	169	113	111	45	49
£5 or £5.10.0 and under £7.10.0 £7.10 and under £10	61	73	112	161	84	92	34	44
£10 and over	59	71	110	158	66	85	36	47
Not known	59	73	109	164	69	94	33	48
Total	**63**	**74**	**121**	**171**	**104**	**107**	**41**	**49**
INCOME GROUP OF 'HEAD OF HOUSEHOLD'				1951				
Up to £3	77	82	171	202	198	139	77	62
Over £3 and up to £5	71	76	151	176	179	133	59	56
Over £5 and up to £7.10.0	65	73	119	162	112	100	41	47
Over £7.10 and up to £10	63	71	112	153	76	97	36	44
Over £10	63	71	113	145	72	91	34	39
Not known	62	72	111	156	92	97	45	46
Total	**67**	**75**	**127**	**170**	**119**	**111**	**47**	**51**

Table 11. Dental Consultations: Mean annual consultation rates per 100 persons interviewed, 1950, by Sex and Age, according to (a) Occupation group (b) Income group of person interviewed

	MALES				FEMALES			
	16–	45–	65 and over	All Ages	16–	45–	65 and over	All Ages
OCCUPATION GROUP *								
Professional and Managerial ..	93	40	59	**70**	106	77	*36*	**95**
Clerical	57	25	*32*	**47**	136	32	—	**120**
Operatives and Other Grades								
Manufacturing	64	36	*7*	**54**	76	27	—	**64**
Transport and Public Services ..	50	30	*40*	**43**	119	*157*	—	**124**
Mining and Quarrying	37	33	*19*	**35**	—	—	—	—
Building and Roadmaking ..	59	22	—	**47**	*192*	—	—	*155*
Agriculture	30	22	*11*	**27**	55	—	—	**44**
Distributive	51	37	—	**44**	68	43	—	**59**
Other Industries..	87	18	*15*	**56**	68	37	—	**54**
Housewives	—	—	—	—	72	40	19	**51**
Retired, part-time, unoccupied, not stated	85	88	23	**43**	97	72	16	**57**
INCOME GROUP OF PERSON INTERVIEWED								
Income nil	*14*	*55*	—	*16*	*119*	*21*	—	**64**
Up to £3 per week	71	29	18	**37**	68	39	20	**38**
Over £3 and up to £5	50	36	15	**39**	64	44	17	**51**
Over £5 and up to £7 10s.	58	31	52	**49**	74	31	21	**60**
Over £7 10s. and up to £10 ..	75	36	*6*	**61**	111	50	—	**91**
Over £10	110	70	*7*	**88**	127	79	*25*	**104**
Not ascertained	74	34	25	**55**	83	44	14	**58**
Totals	**65**	**36**	**22**	**51**	**81**	**41**	**18**	**59**

*For definitions of these groups see page 71.

Note—Italic type means the rate is based on small numbers and is therefore not reliable.

Diagram I. Mean Monthly Sickness, Prevalence, Incapacity and Consultation Rates, by Sex, Age, and Quarter, per 100 persons interviewed, July 1946 to December 1951

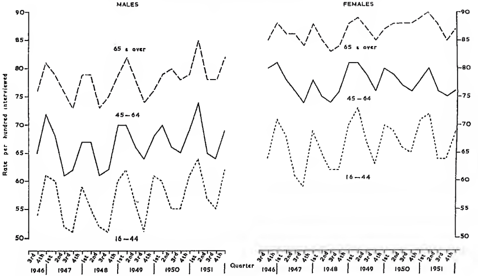

Fig. IA. Mean Monthly Sickness Rates, by sex, age, and Quarter, per 100 persons interviewed, July 1946 to December 1951.

Diagram I, *(continued)*

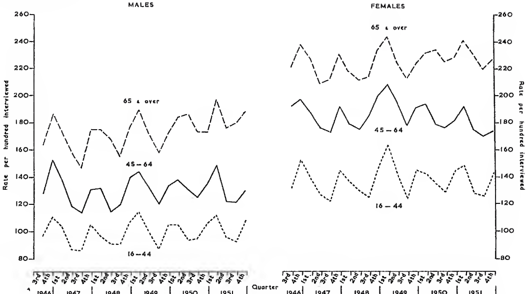

Fig. IB. Mean Monthly Prevalence Rates, by sex, age, and Quarter, per 100 persons interviewed, July 1946 to December 1951

Diagram I. *(continued)*

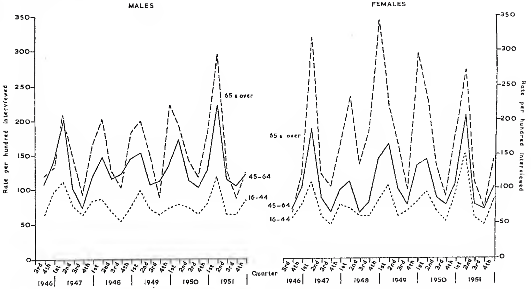

Fig. IC. Mean Monthly Incapacity Rates, by sex, age, and Quarter, per 100 persons interviewed, July 1946 to December 1951.

Diagram I. *(continued)*

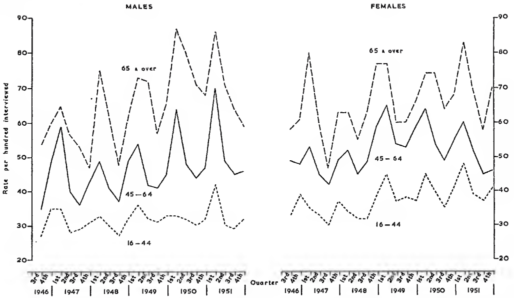

Fig. ID. Mean Monthly Consultation Rates, by sex, age, and Quarter, per 100 persons interviewed, July 1946 to December 1951.

Diagram II. Maps showing Regional Medical Consultation Rates, Monthly Average Duration of Incapacity, and Monthly Sickness Rates, by Sex and Age, per 100 persons interviewed, 1950.

(For composition of the Social Survey Regions see Appendix IV.)

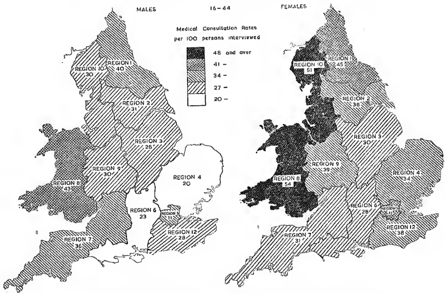

Fig. IIA. Medical Consultation Rates per 100 persons interviewed, ages 16-44, 1950.

Diagram II. *(continued)*

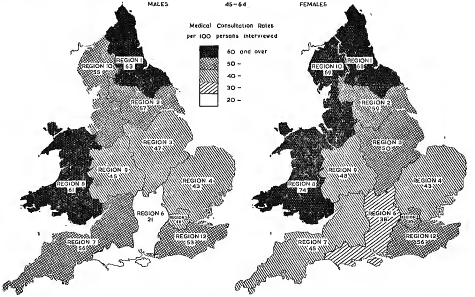

Fig. IIB. Medical Consultation Rates per 100 persons interviewed, ages 45-64, 1950

Diagram II. *(continued)*

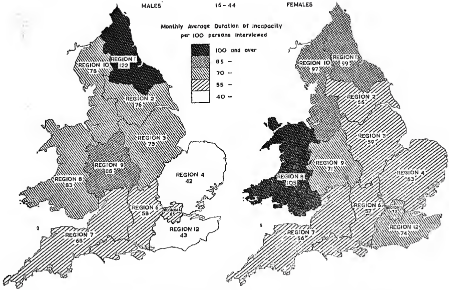

Fig. IIC. Monthly Average Duration of Incapacity per 100 persons interviewed, ages 16-44, 1950.

Diagram II. *(continued)*

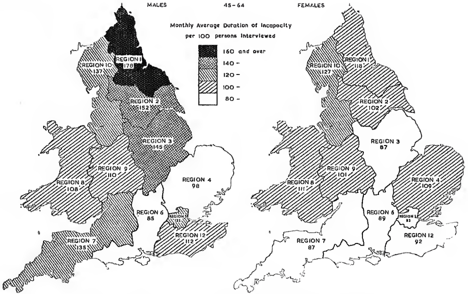

Fig. IID. Monthly Average Duration of Incapacity per 100 persons interviewed, ages 45-64, 1950.

Diagram II. *(continued)*

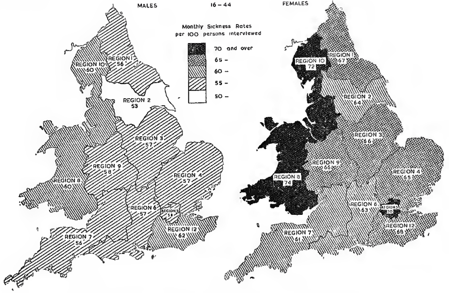

Fig. IIE. Monthly Sickness Rates per 100 persons interviewed, ages 16-44, 1950.

Diagram II. *(continued)*

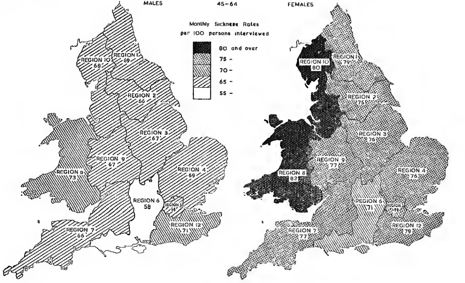

Fig. IIF. Monthly Sickness Rates per 100 persons interviewed, ages 45-64, 1950.

APPENDIX I

Example of Sample Districts, with number of interviews in April to September, 1951

Region 1	Newcastle-on-Tyne 27;
April, June, August	Newbiggin-by-Sea 30; Ryton 30; Longbenton 29; Gateshead 29; Durham 30; Darlington 30. Easington R.D. 47.
May, July, September	Consett 30; Skelton and Brotton 30; Middlesborough 29; Sunderland 29; Scarborough 30; South Shields 30. Kirkby Moorside R.D. 47.
Region 2	Sheffield 48; Leeds 47; Hull 28; Bradford 27.
April, June, August	Heckmondwike 32; Rothwell 32; Castleford 29; Shipley 29; Harrogate 29; Doncaster 29. Howden R.D. 51.
May, July, September	Morley 32; Bentley-with-Arksey 32; Halifax 29; Huddersfield 29; Garforth 29; York 29. Doncaster R.D. 51.
Region 3	Nottingham 28; Leicester 29.
April, June, August	Derby 35; Hucknall 35; Wellingborough 29; Boston 29; Kettering 29. Market Bosworth R.D. 52; Shardlow R.D. 50.
May, July, September	Gainsborough 35; Swadlincote 35; Ilkeston 29; Northampton 29; Mansfield 29. Repton R.D. 52; Daventry R.D. 50.
Region 4	
April, June, August	King's Lynn 31; Letchworth 31; Hornchurch 30; Ipswich 29; Southend-on-Sea 28; Southwold 28. St. Albans R.D. 49; Ely R.D. 50.
May, July, September	Thurrock 31; Hemel Hempstead 31; Rickmansworth 30; Norwich 29; Frinton and Walton 28; Romford 28. Watford R.D. 49; Maldon R.D. 50.
Region 5	
April, June August	Chelsea 40; Paddington 40; Ealing 44; Hammersmith 43; Willesden 39; Hendon 39; Stepney 44; Ilford 44; Leyton 42; Enfield 41; East Ham 38; Bethnal Green 37; Sutton and Cheam 47; Surbiton 47; Southwark 49; Lambeth 49; Deptford 48; Mitcham 47.
May, July, September	Hampstead 40; Westminster 40; Harrow 44; Wembley 43; Staines 39; Hayes and Harlington 39; Barking 44; Southgate 44; Islington 42; Tottenham 41; Walthamstow 38; West Ham 37; Croydon 47; Banstead 47; Wandsworth 49; Camberwell 49; Orpington 48; Lewisham 47.
Region 6	Southampton 31.
April, June, August	Reading 29; Christchurch 29; Oxford 31; Henley-on-Thames 31; Gosport 31. Wimborne and Cranborne R.D. 40; Alton R.D. 39.
May, July, September	Portland 29; Woking 31; Portsmouth 31; Bournemouth 31; Buckingham R.D. 40; Wokingham R.D. 39.

Region 7	Bristol 41.
April, June August	Wellington 35; Frome 35; Paignton 32; Plymouth 32. East Dean R.D. 53.
May, July, September	Exeter 35; Weston-super-Mare 32; Torquay 32. Warmley R.D. 53.
Region 8	
April, June, August	Abertillery 34; Glyncorwg 33; Swansea 38; Newport 37; Penmaenmawr 25. Hawarden R.D. 27; Cardiff R.D. 53; Launceston R.D. 54.
May, July, September	Rhondda 34; Mountain Ash 33; Cardiff 38; Barry 37; Flint 25. Valley R.D. 27; Truro R.D. 54; Crickhowell R.D. 43.
Region 9	Birmingham 103; Stoke-on-Trent 32; Coventry 30.
April, June, August	Smethwick 31; Wolverhampton 28; Halesowen 27; Walsall 29; Aldridge 28; Bromsgrove 27. Upton-on-Severn R.D. 29; Oswestry R.D. 29.
May, July, September	Tipton 31; West Bromwich 28; Cannock 27; Stafford 29; Warwick 28; Shrewsbury 27; Ross-on-Wye 35. Stone R.D. 29; Shipston-on-Stour R.D. 29.
Region 10	Liverpool 74; Manchester 65.
April, June, August	Northwich 31; Warrington 30; Urmston 31; Chadderton 30; Nelson 31; Southport 30; Oldham 30; Bolton 30; Marple 30; Birkenhead 30; Ulverston 30; Hoylake 30; Altrincham 30; Denton 30. Chester R.D. 29; Warrington R.D. 29.
May, July, September	Prescot 31; Leigh 30; Salford 31; Turton 30; Newton-le-Willows 31; Burnley 30; Stalybridge 30; Farnworth 30; Blackpool 30; Bootle 30; Preesall 30; Stockport 30; Chorley 30; Macclesfield 30. Whiston R.D. 29; Runcorn R.D. 29.
Region **12**	
April, June, August	Reigate 37; Maidstone 36; Worthing 31; Margate 30. Godstone R.S. 35; Cranbrook R.D. 35.
May, July, September	Chertsey 29; Woking 31; Brighton 37; Ashford 36; Ramsgate 31; Bognor Regis 30. Swale R.D. 35; Cuckfield R.D. 35.

APPENDIX II

Occupation and Industry Classification

Professional, technical and managerial personnel and clerical workers were coded by occupation, irrespective of their industries, whereas persons engaged in manufacture, transport and public services, etc., were classified by their industries in preference to their occupation. The groups distinguished in the Survey of Sickness were as follows:—

1. Professional and Managerial (including technical, inspectional and supervisory grades).

Included (*a*) persons who will generally have had an advanced training in a special subject, e.g., doctors, ordained ministers, state registered nurses, teachers, lawyers, surveyors, qualified designing draughtsmen, qualified engineers, etc.

(*b*) higher executives and administrators in industry and commerce who are not also specialists; Members of Parliament, owners of large businesses and other persons who usually have the responsibility of making decisions on policy.

(*c*) charge-hands and foremen of gangs, viewers, overlookers and owners or managers of small shops, and other persons in charge of three or more workers.

2. Clerical Workers

Included (*a*) routine clerical workers, e.g. junior clerks, cashiers, book-keepers, with little or no authority over others.

(*b*) junior draughtsmen, tracers, progress chasers, etc.

(*c*) higher clerical personnel, e.g. junior bank clerks and articled clerks and others generally with workers under their charge.

3. Operatives and Other Grades

Included all persons engaged in a concern producing, processing or assembling goods other than in 4 and 5 below.

4. Transport and Public Services (including Shipping, Fishing, Gas, Electricity and Water Works, Sewerage and Docks).

Included (*a*) all persons engaged in undertakings such as rail, road or air services, travel agencies, ferry services, etc.

(*b*) all persons engaged in sea or fresh-water fishing.

(*c*) dock workers (other than those in shipbuilding), railway porters and staff and persons directly concerned with loading and unloading transport.

(*d*) all persons engaged in plants supplying gas, water and electricity.

5. Mining and Quarrying

Included (*a*) all persons engaged in coal, stone and iron ore mining and chalk and lime quarrying, including supervisory workers.

(*b*) surface and underground workers and persons engaged in filling and driving vehicles *within the area* of pit, quarry or mine.

6. Building and Roadmaking

Included all persons concerned with building and repairing property, constructing roads, laying sewerage, etc.

7. **Agriculture**

Included all persons engaged in farming, forestry (not the timber trade), the cultivation of land for producing food, flowers or seeds and the care of domestic animals.

8. **Distributive Trades**

Included (*a*) all persons engaged in wholesale and retail distribution and marketing, whether for home or export markets.

(*b*) all shop assistants, owners, managers, warehouse staff.

(*c*) all persons concerned with the sale of commodities, not services.

(*d*) non-operatives in repair service shops, e.g. laundry receiving offices.

9. **Other Industries**

Included (*a*) Government and Local Authority Staffs; all grades employed directly by the Crown or Local Authority and not covered by any other items in 1 to 8 above.

(*b*) personal service workers; all persons engaged directly or indirectly in supplying a personal service, including laundry, shoe repairing, dyeing and cleaning, hairdressing, etc., entertainment trades and professions, hotel and cafe staffs and domestic workers.

(*c*) other industries, including banking, finance, law, Stock Exchange, insurance, hospital staffs, private school teachers, estate agents, private research organisations which are not attached to any particular industry or authority, undertakers, etc.

10. **Housewives,** unless employed full-time, in which case they were coded to their appropriate occupation and industry groups.

11. **Retired, part-time, unoccupied or with no occupation stated**

Included (*a*) persons who have not been engaged in a gainful occupation for a period of 6 months immediately preceding the last day of the period under survey.

(*b*) persons who have ceased to seek gainful occupation, irrespective of the period since last employment.

(*c*) persons who work 10 hours per week or less and who have not had full or part-time work during the period of 6 months.

This classification was one which the Social Survey had found useful in other investigations and it had the merit of being fairly easy to apply. In fact it is neither strictly occupational nor strictly industrial in its composition, and statistics based on it should, from the health point of view, be interpreted with some reserve. The following table gives some idea, for example, of the range of workers included by the Social Survey in the Professional and Managerial group, as compared with the allocation to social classes of the occupational unit groups to which they would be assigned by the General Register Office in accordance with the Census 1951, Classification of Occupations.(1)

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[1] *H.M.S.O., 1956, price £1 10s. 0d. net.*

Occupation	Number of persons supervised	Social Class
Film technician	—	IIIe
Grocery stores' manager	—	II
School teacher	—	II
General foreman toolmaker ..	over 3	IIIe
Maintenance fitter	4	IIIe
Clerk-typist	5	IIIc
Upholsterer	5	IIIe
Police sergeant	—	IIIe

APPENDIX III

Special Uses of Information obtained from the Routine Survey

1. By Official Bodies

(*a*) The World Health Organization. A list showing the ' frequency of recording ' of categories of disease and injury in the International Statistical Classification was presented to the Morbidity Conference, November 1951.

(*b*) The Ministry of Health used statistics of length and frequency of incapacity and the demand for doctors' services before and after the introduction of the National Health Service for their Committee on General Practice and also in considering arbitration on the remuneration of General Practitioners.

(*c*) The Medical Research Council used data about the amount of incapacity experienced by persons aged 65 and over compared with those aged 16-64, at a conference on Employment of Older Persons, held in October 1951.

The Council's Social Medicine Research Unit employed information about the health of young people aged 16-19 in making a study of the industrial health of adolescents. In planning an enquiry into the prevalence of gastric and duodenal ulcers they used data from No. 2 of the Registrar General's Studies in Medical and Population Subjects.

(*d*) Medical Officers of Health have from time to time used material from the Survey of Sickness in their reports. (See No. 26, p.78).

2. By Independent Research Workers

(*a*) A special survey of statistics of rheumatism was prepared at the behest of the British Rheumatism Association. (Brooke, 1953)(1)

(*b*) Statistics of the incidence of disseminated sclerosis were supplied to the Middlesex Hospital.

(*c*) Data on the prevalence of asthma was used by the Director of the Asthma and Allergy Research Unit, St. David's Hospital, Cardiff. (Williams, 1951)(2)

(*d*) The Cardiff School of Medicine has used material from the Survey on several occasions, for example, in connection with an enquiry into levels of sickness among Welsh University students and in a contribution to a symposium "Medical disorders of the Locomotor System ". (Lewis-Faning, 1951)(3)

3. By the General Register Office

(*a*) In assessing the effects on sickness, incapacity and consultation rates of the introduction of the National Health Service (Logan, 1950)(4)

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[1] *Brooke, E. M. (1953). "Incidence of Rheumatic Diseases". Monthly Bulletin of the Ministry of Health, June, 1953.*

[2] *Williams, D. A. (1951). "Asthma: its clinical, preventive and social aspects". Public Health, September, 1951.*

[3] *Lewis-Faning, E. "Incidence and Prevalence of Adult Rheumatism"—in Fletcher (1951). "Medical Disorders of the Locomotor System".*

[4] *Logan, W. P. D. (1950). "Illness, Incapacity and Medical Attention among Adults 1947-49". Lancet, Vol. I, No. 6608, page 773, April, 1950.*

(*b*) In comparing the relative incidence of gastric and duodenal ulcers (Brooke, 1950)(1)

(*c*) In contrasting the sickness rates of married and single women (Brooke, 1951)(2)

(*d*) In discussing the relation between sickness and incapacity (Brooke, 1952)(3)

4. **Commercial Bodies**

Correspondence has shown that firms of manufacturing pharmaceutical chemists and others have used statistics from the Survey of Sickness.

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[1] *Brooke, E. M. (1950). "Relative Incidence of Gastric and Duodenal Ulcers". British Medical Journal, Vol. II, No. 4678, page 560, September, 1950.*

[2] *Brooke, E. M. (1951). "Death Rates and Sickness Rates of Married and Single Women in 1948". Lancet, Vol. I, No. 6667, page 1272, June, 1951.*

[3] *Brooke, E. M. (1952). "Sickness and Incapacity". Monthly Bulletin of the Ministry of Health, October, 1952.*

APPENDIX IV

Composition of the Social Survey Regions

Region 1. Northern

Northumberland
Durham
Yorkshire, N. Riding

Region 2. North Eastern

Yorkshire, W. Riding
Yorkshire, E. Riding

Region 3. North Midland

Derbyshire
Nottinghamshire
Lincolnshire
Leicestershire
Northamptonshire
Rutland
Soke of Peterborough

Region 4. Eastern

Norfolk
Suffolk
Essex (excl. parts in Greater London)
Hertfordshire (excl. parts in Greater London)
Bedfordshire
Huntingdonshire
Cambridgeshire

Region 5. Greater London

Counties of London and Middlesex and parts of Essex, Hertfordshire, Surrey and Kent

Region 6. Southern

Oxfordshire
Buckinghamshire
Berkshire
Hampshire
Dorset
Isle of Wight

Region 7. South Western

Gloucestershire
Wiltshire
Somerset
Devon
Cornwall

Region 8. Wales

Wales, including Monmouthshire

Region 9. Midlands

Herefordshire
Worcestershire
Warwickshire
Staffordshire
Shropshire

Region 10. North Western

Cheshire
Lancashire
Westmorland
Cumberland

Region 12. South Eastern

Surrey (excl. parts in Greater London)
Kent (excl. parts in Greater London)
Sussex

N.B. **Region 11**, comprising the whole of Scotland, was not included within the Survey of Sickness.

APPENDIX V

A Short Bibliography of Sickness Statistics

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5. De Porte, J. V. — Sickness in Essex County, 1927-28. New York State Journal of Medicine, November, 1929.
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16. Bransby, E. R. " Comparison of the Rates of Sick Absence of Metropolitan Policemen before and after the War ." Monthly Bulletin of Ministry of Health and the Public Health Laboratory Service, Vol. 8, page 31, February, 1949.

17. Bransby, E. R. " A study of Absence from School ". The Medical Officer, Vol. 86, pages 223 and 237, December, 1951.

18. Stocks, P. " Vital Statistics of the Second Year of the War ". Lancet, Vol. 1, No. 6181, page 189, February, 1942.

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APPENDIX VI

Specimen schedule as used by the Social Survey

Printed in Great Britain under the Authority of Her Majesty's Stationery Office by (M. Harland & Son Ltd.,)
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1. How was your general health during February and March?

2. Did you have any illness, ailment, poisoning or injury of any kind or trouble with long standing complaints during February and March? Yes ______ Y No ______ X

4. What was the cause or what do you think was the cause?

Illnesses (name and description in every case)		Prompted? Before	After
A		1	2
B		1	2
C		1	2
D		1	2
E		1	2
F		1	2
Injuries			
G		1	2
H		1	2

CHECK LIST

TO BE READ OUT IN ALL CASES, PAUSING BETWEEN EACH ITEM OR GROUP OF ITEMS

Have you had anything wrong in the way of –

COLDS, CATARRH, or

NOSE & THROAT trouble or anything wrong with your EYES, EARS, TEETH, HEADACHES, CHEST, HEART, STOMACH OR INDIGESTION, LIVER, KIDNEYS, BOWELS OR CONSTIPATION, LEGS, FEET, HANDS, ARMS, or

RHEUMATISM, SKIN COMPLAINTS, INFECTIOUS DISEASES, or anything wrong with your NERVES.

TO ALL WOMEN

Have you had anything wrong in the way of women's complaints

3. ASK FOR EACH ILLNESS AND INJURY IN EACH MONTH SEPARATELY

a. Did it trouble you in February (March)? IF NO, CODE 0. IF YES, ASK b.

b. Have you ever been troubled with this before about now? IF NO, CODE 1. IF YES, ASK c.

c. Did it first start more than a year ago? IF NO, CODE 6 AND ASK d. IF YES, CODE 7 AND ASK d.

d. IF February (March) Was it present in January (February) and if so, did it continue without a break from that month? IF YES – CODE 9. IF NOT PRESENT DURING PREVIOUS MONTH – CODE 8. IF NO – CODE 9 EXCEPT FOR TREATMENT, INOCULATION ETC. WHEN ASK (e)

e. Were you free from it for as much as a week at a time between attacks during February (March)? IF YES, CODE 8. IF NO, CODE 9

IF NOT PRESENT (0), DO NOT ASK b.–e. FOR THAT MONTH. IF NEW (1), DO NOT ASK c.–e. FOR THAT MONTH

5. FOR EACH ILLNESS AND INJURY IN EACH MONTH

a. Did it keep you in bed?

b. Did it prevent you from going out of doors?

c. Did it prevent you from going to work?

Seldom/never out of bed 1

Seldom/never out of doors 2

IF 1 OR 2 RINGED LEAVE APPROPRIATE COLUMN BLANK

7. FOR EACH ILLNESS AND INJURY IN EACH MONTH

Did you consult a doctor?

Yes ______ 1

No ______ 2

IF YES (1), where and how many consultations with a doctor?

('Other place' includes at work, clinic, or hospital out-patients)

8. Were you in hospital?

Yes ___ 1

No ___ 2

IF YES (1) how many days each month?

9. Did you consult a dentist?

Yes ___ 1

No ___ 2

IF YES (1) how many times each month?

CALENDAR FOR SURVEY PERIOD

	JAN.	FEBRUARY					MARCH					APR.
SUN.	28	–	4	11	18	25	–	4	11	18	25	1
MON.	29	–	5	12	19	26	–	5	12	19	26	2
TUES.	30	–	6	13	20	27	–	6	13	20	27	3
WED.	31	–	7	14	21	28	–	7	14	21	28	4
THUR.	–	1	8	15	22	–	1	8	15	22	29	5
FRI.	–	2	9	16	23	–	2	9	16	23	30	6
SAT.	–	3	10	17	24	–	3	10	17	24	31	7

	FEBRUARY						MARCH						FEBRUARY		MARCH		FEBRUARY				MARCH				FEB.	MAR.	FEB.	MAR.	FOR OFFICE USE						
	Not present in this month	New	Started less than year ago	Started more than year ago	Recurred after break of week or more	Continued without break or not free for week	Not present in this month	New	Started less than year ago	Started more than year ago	Recurred after break of week or more	Continued without break or not free for week	Days in bed	Days indoors /away	Days in bed	Days indoors /away	At home	At Dr's	Other place	Total	At home	At Dr's	Other place	Total					R	A	International List No. (b)	X	Category 1	Category 2	Hospital
A	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
B	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
C	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
D	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
E	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
F	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
Injuries G	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					
H	0	1	6	7	8	9	0	1	6	7	8	9																	1	2					

FOR OFFICE USE ROUTINE

Illnesses Not 78/79	All	Injuries	All ailments	Most Serious Illness	Injury

THE SOCIAL SURVEY
83, Baker St., LONDON, W.I. HEALTH INDEX H.I.81

(i) Interviewer________________
Authorisation number____________ ______

(ii) RING DATE OF INTERVIEW

	SUN	MON	TUES	WED	THUR	FRI	SAT
MARCH	25	26	27	28	29	30	31
APRIL	1	2	3	4	5	6	7
	8	9	10	11	12	13	14
	15	16	17	16	19	20	21

(iii) Sampling Area________________ ______

Urban	1
Rural	2

(iv) Answered by:-

Subject	Y
Proxy	X
Subject helped by proxy	0

Proxy is:-

Father	0
Mother	0
Husband	0
Wife	0
Son	1
Daughter	1
Srother	1
Sister	1

Reason for taking proxy________________

(v) Subject where living

At home	1
In institution, hotel	2
As a boarder	3
In rooms	4
As a resident servant	5

(vii) Household composition

I Husband, Wife
Father, Mother, Son, Daughter
Brother, Sister (blood/in-law).
II Other Relatives, Friends, Boarders, Servants

	Relationship to Subject	Sex M F	Age	Working F P N	
I	A Subject	1 2		7 8 9	Total under 16
	B	1 2		7 8 9	
	C	1 2		7 8 9	
	D	1 2		7 8 9	Total 16 and over
	E	1 2		7 8 9	
	F	1 2		7 8 9	
II	G	1 2		7 8 9	Total in household
	H	1 2		7 8 9	
	I	1 2		7 8 9	
	J	1 2		7 8 9	

H.O.H. is (give letter)________ ______

(viii) Number of rooms________________ ______

(ix) Sex of subject

Male	1
Female	2

(x) Age of subject

16 - 19	00
20 - 24	01
25 - 29	02
30 - 34	03
35 - 39	04
40 - 44	05
45 - 49	06
50 - 54	07
55 - 59	08
60 - 64	09
65 - 69	10
70 - 74	11
75 - 79	12
80 - 84	13
85 - 89	14
90 and over	15

(xi) Status of subject

Married	7
Single	8
Widowed	9

(xii) Subject housewife

Yes	1
No	2

	Sjt	HOH
	7	8
(xiii) Employed over 30 hours per week	0	0
Employed over 10 to 30 hours per week	X	X
Unemployed for this number of months	___	___
Others (specify)	Y	Y

Sjt________________
HOH________________

IF EMPLOYED (0, X) ASK (xiv) (a) OR (b) ABOUT PRESENT JOB
IF UNEMPLOYED (-) ASK (xiv) (a) OR (b) ABOUT LAST JOB
IF OTHERS (SPECIFY) (Y) GO ON TO (xv)

(xiv) (a) Subject occupation (full description)

____

Subject industry, trade or profession

____

Self-employed___1 in charge
Employee______2 of others____ ______

(b) HOH occupation (full description)

____

HOH industry, trade or profession

____

Self-employed___1 In charge
Employee______2 of others____ ______

(xv) Income per week less deductions plus overtime bonuses etc.

SHOW CARD

	Sjt	HOH
Nil	0	0
Up to £3	1	1
Over £3 to £5	2	2
Over £5 to £7.10	3	3
Over £7.10 to £10	4	4
Over £10 to £20	5	5
Over £20	6	6
Don't know	7	7
Refusal, not asked	8	8

IF SJT D.K. REFUSAL NOT ASKED (7.8) Why?

____

IF HOH D.K. REFUSAL NOT ASKED (7.8) Why?

____

(xvi)

May call back	Y
May not call back or doubtful	X

(xvii) Interview situation CODE ALL THAT APPLY

Informant alone	4
Spouse present	5
Other adult(s) present	6
Child(ren) present	7

(xviii) Interviewer's assessment of success of interview

Above average (give reason)	1
Average	2
Below average (give reason)	3
Very poor (give reason)	4

____

____

(xix) Number of calls________________ ______

(xx)

Original interviewed	1
Substitute interviewed	2

(xxi) Serial number________________ ______